THE U.S. GOVERNMENT AND THE FUTURE OF INTERNATIONAL MEDICAL RESEARCH

HEARINGS

BEFORE THE

SUBCOMMITTEE ON REORGANIZATION AND INTERNATIONAL ORGANIZATIONS

OF THE

COMMITTEE ON GOVERNMENT OPERATIONS UNITED STATES SENATE

EIGHTY-SIXTH CONGRESS

SECOND SESSION

APPENDIX ON OVERSEA MEDICAL RESEARCH AND ASSISTANCE

(PURSUANT TO S. RES. 347, 85TH CONG., S. RES. 42, AND S. RES. 255, 86TH CONG.)

PART III—EXHIBITS FROM NONOFFICIAL SOURCES

REPORTS, MEMORANDUMS, AND LETTERS ON AND FROM PRIVATE BIOMEDICAL ORGANIZATIONS AND EXPERTS

INCLUDING INDEXES TO PARTS II AND III

Printed for the use of the Committee on Government Operations

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FOREWORD

By Hon. Hubert H. Humphrey, Chairman, Subcommittee on Reorganization and International Organizations

This is the companion volume to part II as an appendix to the subcommittee's hearings.

The present volume is devoted principally to reports, memoranda and letters from nonofficial organizations. By contrast, most of the contents of part II consist of material from and about official United States, intergovernmental, foreign and State organizations.

The two appendix volumes are designed to provide background for the subcommittee's evaluation. They are in effect the evidence upon which the subcommittee will base its final report. They represent the type of information which would have been presented orally, at additional hearings, had time permitted.

OUTLINE OF VOLUMES

The present volume commences with section E on nongovernmental sources.

Part II had included sections A, on the U.S. Government; B, on intergovernmental organizations; C, on foreign nations; and D, on several States and cities in medical research and in international cooperation.

SAMPLES OF INFORMATION HEREIN

Within this volume are such varied facts as concern:

1. The 9,457 foreign physicians from 92 countries training in hospitals throughout the United States (p. 1136).
2. The pioneering grant of $126,190 made in November 1958 by the National Institutes of Health to an international professional organization, the World Federation of Neurology (p. 848).
3. The $120 million which The Rockefeller Foundation has spent on international medical education, assistance, and biological and medical research through 1957 (p. 1091).

together with other subjects which will, we trust, prove informative and useful.

APPRECIATION TO CONTRIBUTORS

The many correspondents to this volume who have generously given of their time and energy to share their views with us can be assured that we are doing and have done more than merely publishing their letters. Appearance of their comments within this volume is but another means to an end—constructive action.

Each letter was carefully read when it was received, whether it arrived in September 1958, one month after our study started, or in January 1961—"closing date" for the contents herein.

ACTIONS BASED ON LETTERS

As we read these incoming messages, our understanding evolved. Actions developed. One incoming letter may have led to an outgoing subcommittee inquiry or suggestion—to a Federal agency or an intergovernmental organization or a foreign group. Another letter may have resulted in a decision to explore a facet further by soliciting additional views from private organizations and individuals. Most incoming messages served as a stimulus for our further study. And now, reproduced herein, there will perhaps be further constructive byproducts of our contributors' messages.

"GOING TO" THE WORLD'S SCIENTISTS

As indicated in part I, pages 94 ff., we believe that never before has a Senate subcommittee made so considerable an effort "to go to the world's scientists," so to speak, for their opinions.

We have not waited for them to write us, nor have we asked the Federal agencies to question them for us. Instead, we have proceeded to make our own contacts directly, to elicit reactions and get the benefit of personal and group impressions.

That we have had to do so through writing rather than through more visits is a source of regret, but an unavoidable decision, due to our other obligations. The correspondence has however been fruitful, we believe.

As to format, letters are preceded, as indicated in the foreword to part II, by brief introductory comments, setting them in perspective.

BACKGROUND ON SUBCOMMITTEE IN SECTION F

The goals of the subcommittee itself are explained in section F. There are presented information on the background of our work, our modus operandi, reactions which we have received to date, and some of the future publications which we may issue.

Section F concludes with the notation of our principal purpose—action. Thus, our goal in compiling all of this evidence has been to inform ourselves and to inform others so that there could be developed new legislation and/or administrative changes which would help strengthen international scientific cooperation.

INDEXES TO BOTH VOLUMES

The concluding pages contain three indexes which cover the contents of parts II and III:

(*a*) Index of correspondents and contributors,
(*b*) Index of abbreviations, and
(*c*) Selected subject index.

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1. Medical Associations

Senator Humphrey. This section is devoted to the views of the medical profession. Herein are reprinted pertinent materials from the American Medical Association, the World Medical Association and from individual leaders of foreign medical associations whom the subcommittee contacted.

These materials help answer such questions as:

What is the judgment of the world's medical associations and academies as to improved means of international cooperation?

What do the medical organizations view as highest priority needs in (a) international medical assistance, (b) international medical research?

What are the types of problems currently confronting individual medical associations in their respective lands?

Correspondence from American Medical Association

Senator Humphrey. The members of this subcommittee are especially grateful to the American medical profession for the invaluable aid which it has extended to us throughout our entire study. Since the subcommittee is composed by and large of laymen, we knew from the outset that we would rely very heavily upon the one American group which is most competent of all to advise on technical problems of medical research and assistance.

As the recognized spokesman for American medicine, the American Medical Association itself has been of great assistance. In all the dozens of phases of our study there is scarcely a topic in which we have not sooner or later turned to the AMA. That includes contact with its expert committees or councils, its various officers, its executive vice president, Dr. F. J. L. Blasingame, its secretary, Mr. C. Joseph Stetler, its past presidents, such as Dr. David B. Allman, Dr. Edward L. Bortz, Dr. Louis Orr and others.

No single periodical has contained more valuable information for our study than the "Journal of the American Medical Association." Other AMA publications have been helpful also.

Some of the numerous acknowledgments and other messages received by the subcommittee from AMA leaders now follow. The titles of the AMA officers, as published herein, are or were those at the time of the subcommittees' receipt of their messages.

American Medical Association,
Chicago, Ill., September 11, 1958.

Dear Senator Humphrey: Dr. Gunnar Gundersen, President of American Medical Association, has asked me to reply to your letter of August 19 concerning S. Res. 347. I wish to express the appreciation of Dr. Gundersen and the association for your kind invitation requesting our comments concerning international health research and rehabilitation programs. I also wish to thank you for the memorandum concerning recent Senate actions in the health field, which we found to be of much interest.

I shall inquire of our Committee on Legislation and our Board of Trustees as to whether they wish to make any association statement on these subjects. These bodies will be meeting in the near future and I will let you know of their decision as soon as it is made. In the meantime, if the association may be of any help to you whatsoever in providing information or material, or in answering questions that the committee members may have, please feel free to call on us at any time.

Sincerely yours,

F. J. L. BLASINGAME,
Executive Vice President.

AMERICAN MEDICAL ASSOCIATION,
Chicago, Ill., February 23, 1959.

DEAR SENATOR HUMPHREY: I have just received your letter of February 18th and in that I am no longer Chairman of the AMA Committee on Federal Medical Services, I am forwarding your letter with the attached material to Dr. Russell Roth, of Erie, Pennsylvania, the new chairman of this committee.

I can assure you at once that we will be only too happy to furnish you with all the material we have published and all the information which has come within our purview. I feel certain that this committee will be glad to furnish any information they can give you in your program of international goodwill through medical assistance and research. I personally feel that this is one of the great things of our age and its consummation will do more to cement relationships between people than any other thing we can do. Some day I hope to have the privilege of speaking to you about this personally. At this time I can also give you my personal analysis as you requested.

I trust you will accept my congratulations on your extremely interesting ideas for world peace through medicine.

Very sincerely yours,

LOUIS M. ORR, M.D.,
President-Elect.

ADDRESS BY LOUIS M. ORR, M.D., AT 1960 AMA CONVENTION

Senator HUMPHREY. A year later, as President of the AMA, Dr. Orr, publicly addressed himself to the international challenge of medicine.

There follow his eloquent comments at the 109th convention.

GOOD HEALTH TO ALL MANKIND [1]

Two weeks ago, I was in the Far East attending various medical meetings.

Upon leaving for Tokyo, Bangkok, Hong Kong, and Manila, I recalled those words that I repeated to you just a few minutes ago * * * "Whatsoever science does * * * should be done with only one thought in mind: To extend medicine's knowledge and benefits ultimately to all the earth's population."

As long ago as my visit to Brazil last fall, an idea on how to extend medicine's benefits to more of the earth's population has burned inside of me. Now that I have seen firsthand in Asia the widespread need for extending medicine's benefits, I desire more than ever to submit my suggestion to you for consideration.

Today—at this very moment—disease and death unnecessarily stalk tens of thousands of cities and rural villages in the many countries of South America, Asia, and Africa.

Sickness prevails for the lack of simple medicines. Disabilities go uncorrected for the lack of medical attention. Life expectancy remains at low levels because diseases which modern medicine can control go unchecked.

I think we can do something about the situation because, as doctors, we are interested in the health and well-being of people everywhere. Furthermore, as a national medical association comprising 50 constituent State societies and almost 2,000 county societies, we are concerned about the health of other nations, States, and regions.

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[1] Address to the House of Delegates by Louis M. Orr, M.D., President, American Medical Association, Opening Session, Miami Beach, Fla., June 13, 1960.

Therefore, I propose that our county and metropolitan medical societies, perhaps even State associations, adopt a rural village, a city or a region on another continent with the sole purpose of helping to improve the health of the people and the area.

This kind of people-to-people aid by our medical societies could include all sorts of medical, clinical, and hospital supplies—medicines, instruments, utensils, equipment, bandages, books, and beds. It might even include the services of a member physician for a period of time.

Our goal would be the control of tuberculosis, cholera, malaria, leprosy, typhoid, hepatitis, dysentery, internal parasites, and the other prevalent diseases so that suffering might be alleviated, death postponed, and healthful living promoted.

I sincerely believe that this great challenge compels us to act. I believe that our medical conscience will not let us rest until we do act. And I believe that when we do, the results will be immediate and most gratifying. In fact, I think that we will double our efforts after the first progress report comes in.

As an example of what can be done, I recall for you the letter of appeal to the AMA News from Father Moffett way over in Paengnyong Island in the Yellow Sea. Last autumn Father Moffett asked for a little hospital for the 12,900 people on his three islands. He wrote:

"I've turned to every side looking for help for my dream. Now I turn to the AMA. I figure that somewhow you can help me.

"* * * The most prevalent disease here is TB. If we could lick TB, we would raise the life expectancy from the present 35 to 40 to a normal (for Asia's democratic countries) 58 to 60."

Just 1 month later Father Moffett wrote to the AMA again. Relief, he reported, already had arrived from more than 50 doctors and AMA employees in a variety of forms—money, the promise of medicines, and even word that hospital equipment was on its way. For the money received Father Moffett was able to erect a hospital building of cement floors, mud-brick walls and a tin roof.

Two months later Father Moffett wrote again:

"AMA has done what they said could not be done—what no one else would dare try to do—what nothing but love and sacrifice could have done.

"I want to steal one more moment from the busy lives of the doctors and other AMA News readers who have helped my poor people—a moment to have them stop in their rounds to close their eyes to 'see' what their compassion has done.

"More than 120 fishermen, their wives and children every day limping, dragging, being carried in every stage of agony across these sand dunes to my door for relief—and getting it—and confident in their grateful simplicity that they always will get it."

Should we not now dare to try to do for so many others what a few readers of AMA News have done so well for so many on the three tiny islands?

With the medical societies, their members, their Woman's Auxiliaries, and the new AMA department of international health working together, I believe that American medicine can make a significant contribution to the health improvement of the people in newly developing nations.

AMERICAN MEDICAL ASSOCIATION,
Chicago, Ill., May 25, 1959.

MY DEAR SENATOR: This will acknowledge your kind letter of May 18 regarding the interest of the Medical Society of New Jersey in cooperating with your subcommittee studying the subject of international health, and enclosing a copy of the initial committee print of your study, and also asking for any personal views I may have.

I know that you have heard from the American Medical Association regarding this study and, of course, I support their views completely. At the present time I have no personal suggestions but should you have any partinent questions that you feel I might be of any help in answering, please feel free to call on me and be assured of my cooperation.

Please permit me, at this time, to congratulate you upon the splendid work you are doing along these and other lines.

Very truly yours,

DAVID B. ALLMAN, M.D., F.A.C.S.,
Immediate Past President.

AMERICAN MEDICAL ASSOCIATION,
Chicago, Ill., September 1, 1959.

DEAR SENATOR HUMPHREY: For myself, the members of the Committee on Federal Medical Services, and the Council on Medical Service, I wish to express appreciation of your invitation to make recommendations concerning international health research and assistance programs in which the United States participates. As I am sure you are aware, the American medical profession is firmly convinced of the worth of such projects, since new discoveries in medicine are never the exclusive province or property of one nation, and from the standpoint of expressing the true American spirit of cooperation and helpfulness. Indeed, Dr. Gunnar Gundersen, immediate past president of the American Medical Association, has just this year testified in support of Senate Joint Resolution 41, to establish a National Institute for International Medical Research and a corollary National Advisory Council.

However, the primary function of the Council on Medical Service and its committees is to gather information assisting in the improvement of rendition of medical care to the American people. In this context, the Committee on Federal Medical Services, while it is, of course, aware of and has studied certain of the international health programs in which this country participates, has had for its major area of study the impact of nonmilitary Federal medical programs on the citizens of this country. The multiplicity of such programs, from the vast hospital system of the Veterans' Administration to the care of seal fishers in the Pribilof Islands by the Fish and Wildlife Service, has presented the committee members with such a panorama to consider that our study of international programs has regrettably been less than intensive.

As a result, we do not feel qualified to make an appraisal of specific research and assistance programs in which the various agencies of the Government, as well as private organizations, are involved. We shall, of course, continue to scrutinize these programs and will transmit to you any specific recommendations of the committee. At present, however, we feel it appropriate only to make certain general suggestions which have occurred to us in our investigations.

1. Research grants.—It is the consensus of the committee, as well as of many authorities in the field of medical research, that appropriations can sometimes cause a "forced growth" of research. The committee members, as physicians, are perhaps better aware than most of the value of both basic and applied research in medical problems. On the other hand, medical research is a fine public-relations device for any agency, and one seldom criticized since, due to the complexity of modern science, not only laymen but frequently physicians themselves are unable to evaluate the worth of a research project unless it lies in their own field of specialization.

It also appears to be almost a tradition with governmental agencies that all of the appropriation for a given year must be spent during that year, to avoid suffering a budget cut in the succeeding year. As a result, it may sometimes happen that a research project is set up, not because it is valid or scientifically necessary, but to make use of the research funds appropriated.

The vast number of governmental and private agencies engaged in health research, and the overall lack of coordination, make it almost certain that there is unnecessary duplication as well. Various agencies do, of course, attempt to maintain project registers, but the committee has found that only through its own efforts could it attain a general knowledge of which Federal agencies are engaged in medical and related research—aside from the question of what research they are engaged in.

The committee members feel that these comments almost certainly apply as well to the field of international health research. They would suggest, therefore, that your subcommittee consider means of establishing some central reservoir of information as to what research projects are being undertaken, their methodology, and their sponsors, and some means of coordinating these projects to facilitate interchange of data gathered and to avoid unnecessary duplication of effort.

They would suggest, further, some restudy of appropriation methods for such projects, in order that funds may be geared to necessary research and to obviate establishing research projects merely to utilize appropriated funds.

2. Assistance programs.—You are no doubt aware that the American Medical Association has lent its support to the People to People Health Foundation project to use the Navy hospital ship, the *Consolation*, in an effort to bring American medical knowledge to the people of southeast Asia. This is a concrete example of the American medical profession's interest in raising the standards of medical care on an international basis.

It is also evidence of what the committee members feel should be the primary purpose of such assistance projects—to help other nations to help themselves—in that this ship will operate as a training center for Asian health personnel, as well as a base for medical, nursing, and sanitation teams and other health purposes.

The committee has noted the often remarked tendency of government missions to perpetuate themselves. It feels that any assistance programs in which the United States participates will defeat their own purpose unless their primary objective is assistance to other nations in improving their own health systems. The purpose of American assistance, we feel, should be to eventually make American assistance unnecessary. These programs should be aimed at helping other nations to increase and improve their own facilities for training health personnel and for caring for their sick to the point where they become self-sufficient. Any other goal will be good neither for the United States nor for the other nations involved.

The committee is well aware that these suggestions are broad policy recommendations which have probably been brought to your attention already. If it reaches any more specific recommendations, as a result of further study, it will submit these also at a later date.

In the meantime, I wish to assure you again of the committee's great interest in your study and its appreciation of your desire to make certain that health research is conducted efficiently, economically, and with a view to the ultimate improvement of the health, not only of our own citizens, but of our fellow men throughout the world.

Respectfully yours,

RUSSELL B. ROTH, M.D.,
Chairman, Committee on Federal Medical Services,
Council on Medical Service.

STATEMENT BY DR. GUNNAR GUNDERSEN

Senator HUMPHREY. One of the finest statements of the international concern of the American medical profession was that of another distinguished past president of the American Medical Association, Dr. Gunnar Gundersen of La Crosse, Wis.

There is reprinted the text of his address before the 107th annual meeting of the AMA, as published in the June 28, 1958, issue of the "Journal of the American Medical Association."

PHYSICIANS TO THE WORLD

PRESIDENT'S ADDRESS

Gunnar Gundersen, M.D., La Crosse, Wis.

In accepting the office of president of the American Medical Association, I do so with deep feelings of appreciation, humility, and responsibility. My sense of responsibility is heightened by realization of the tremendous number and variety of challenges which medicine faces today. As individual physicians, members of organized medicine, and citizens in the community and the Nation, we have in recent decades encountered an ever-increasing complexity of demands on our time and thought. Now, like all of our fellow Americans, we find our problems compounded by the world struggle for survival and freedom—in the new age of hydrogen bombs, ballistic missiles, and earth satellites.

In recent years the individual physician has had an increasingly difficult time in trying to keep up with the accelerated scientific advances in medicine. Now, with man probing into outer space, it appears that our scientific future will be further complicated by the development of still another specialty—space medicine. Nevertheless, right here on terra firma it is more than ever true that medicine is a lifelong study—one which actually is just beginning when the young doctor receives his M.D. degree or completes his graduate training.

Meanwhile, we also are reemphasizing the emotional, personal, and spiritual factors in medical care. The age-old art of medicine—that intangible element made up of compassion and warmth—is regaining its proper place. In medicine,

as in all other phases of American life, we are rediscovering that philosophy is just as important as technology, that the human personality cannot be subordinated to crisp efficiency.

The challenge of how to apply the science and art of medicine is formidable enough in itself. But it too has been further complicated by the changing backdrop on the American scene. Over the past 20 years we also have been called upon to consider a snowballing trend of social, economic, and political developments affecting medicine.

These problems are related to still another area—one in which we have obligations and responsibilities shared by all our fellow Americans. This is the broad arena of citizenship. We as individuals have the duty to bring our weight to bear on the vital question of whether the individual or the state shall stand supreme in America's future.

Obligations of the Physician

Certainly, one might say, all of that should be more than enough to ask of a physician or his profession—scientific excellence, concern for the patient as a human being, active effort to solve medicine's socioeconomic problems, and full discharge of the responsibilities of citizenship. I would, however, call your attention to still another challenge, still another set of demands. In this day and age—a time of terrible decision—we also must consider our obligations to all of humanity. As both physicians and citizens we must see that medicine plays its full role, not only in promoting better world health but also in helping the search for brotherhood and peace.

Some of you may be saying to yourselves, "With all our local, State, and National problems, how can we possibly find time to do anything about world health? What is the connection?" That, of course, is a natural reaction in view of the growing complexity of our professional life.

I would answer in two ways—one dealing with tradition and one with the realities of the present. The traditions of modern medicine began many centuries ago with Hippocrates, the Greek physician and teacher. Students from all over the Aegean area gathered around him on the island of Cos. From there they returned home to spread the knowledge and ethics which Hippocrates had taught them. And it is important to remember that when Hipprocrates wrote the medical oath which all of us have taken he was speaking not just to and for Greeks; his words speak a universal language that applies to all men. So, ever since those distant days on the island of Cos, dedicated physicians have made their knowledge and compassion available to all who needed them.

Turning to present-day realities, I am convinced by personal experience that our medical heritage—which stems from Hippocrates—can be applied more widely, more effectively, in today's troubled world. As many of you know, I have been active for several years in the affairs of the World Medical Association. As a delegate in its general assembly and a member of its council, I have had the opportunity to meet hundreds of physicians from more than 50 countries. And I have learned that they sincerely desire closer understanding and cooperation—not only on scientific and professional matters but also on a human basis. There is growing recognition that medicine, with its resources and influence fully mobilized, can perhaps do more for world peace than the billions of dollars being poured into armaments. There is mounting conviction that the time has come when medical statesmanship must be used to augment the methods of political diplomacy.

I firmly believe that we can and must expand our vision and face up to this new challenge. The problems which trouble us here at home exist also for the physicians and peoples of other lands. The knowledge, ideas, and experience which we have gained can help them. But we also can benefit from learning more about their difficulties—how they might have avoided some, how they are trying to solve others. Our international obligations are simply extensions of our local responsibilities.

The common thread is a concern for human life and health, a respect for personal freedom and dignity. In my opinion, there is a clear, logical, mutuality of interest.

If we think we have difficulty in keeping up with medical advances, let us consider the thousands of physicians, nurses, and technicians throughout the world who carry on their work with only a fraction of the facilities, equipment, journals, books, exhibits, and other aids which are available to us. For many of them, just this 1-week meeting in San Francisco would be the professional event of a lifetime.

If we think that our patients should have more sympathy and understanding, we who are bestowed with the blessings of our country must consider the millions of persons in other parts of the world who are diseased, undernourished, crippled, or dying. To them, just one kind look, one gentle word, one soothing drug would be like a miracle.

If we think that we have socioeconomic problems in American medicine, let us consider the plight of physicians and patients in those countries where there are extreme shortages of doctors, where people still pay medicine men and witch doctors for their incantations, or where medical care long has been used as a political football. In the latter case, let us learn well the lesson of medical unity.

If we think that our freedoms are threatened here at home, let us consider the millions who already have been subjugated by authoritarian philosophies or who are being victimized by constant, ruthless pressure and exploitation in the cold war between communism and democracy—a war that really can be won only by ideas, not by missiles or bombs.

As physicians, our first obligation is, of course, to our patients. But as members of the medical profession, our obligation extends to all mankind.

The Physician and World Peace

As American citizens our first duty is to this country. But as members of a civilization which believes in the brotherhood of man, we also have a duty toward all men who yearn for freedom, dignity, peace, and health. Physicians in America should never forget their responsibilities to all humanity or neglect their opportunities to promote the brotherhood of man.

We physicians have a unique opportunity to provide a spark of leadership which can help bring the world closer to the dream of world brotherhood. If you do not feel the compulsion of that task, I can only remind you of the sputniks, Explorers, and Vanguards whirling overhead. They in themselves are but the toys of grown men, compared with the potential engines of destruction which put them into orbit. If our alternative is destruction or a dream, the only sensible choice is to make the dream work.

Medicine can play a vitally effective part in bringing reality to the dream of world peace. For medicine, despite the designs of politicians or dictators, is above the harsh conflicts of ideologies and power politics. Medicine, like religion, speaks a universal language which passes all barriers of race, creed, color, and nationality. Already, great work has been accomplished by individuals, private organizations, medical associations, and official agencies. In fact, the brightest chapter in the international story since World War II is that on health and medicine. This is no uncharted course; the way is well marked.

San Francisco is a particularly appropriate place in which to stress the challenge of international cooperation. For it was here in 1945 that the United Nations was formed and the first suggestion was made for establishment of a new international health organization. Three years later the World Health Organization came into being.

While the World Health Organization was going through its formative stages, the physicians of many countries were meeting informally to discuss the need for an international medical organization. As a result, the World Medical Association was officially established in September 1947, with the American Medical Association as a founding member.

Thus, both organizations—rooted in postwar ideals of world collaboration—have just recently completed their first decade of service. From the beginning, they have maintained close liaison with one another and with many additional international groups interested in various phases of medicine, health, and general welfare. They are the main avenues for mobilizing and coordinating world medical resources for the common good of humanity.

Whereas the World Health Organization represents governments and the field of public health, the World Medical Association speaks for the medical profession. It now is composed of 53 national medical associations representing about half a million physicians throughout the world. Its principal objectives are to maintain the standards, ethics, and traditions of medical practice; to raise the standards of medical education; to promote the mutual exchange of information and ideas among the physicians of the world; to help raise the level of world health; and to promote world peace.

In pursuit of those objectives, the World Medical Association has carried out a wide variety of activities. As just one example, in 1953 the World Medical Association sponsored the First World Conference on Medical Education. More than 600 participants from over 60 counties and 127 universities and medical schools attended that London meeting, which focused attention on undergraduate medical education. The proceedings have been widely distributed throughout the world. The Second World Conference on Medical Education—spotlighting the theme of "Medicine as a Lifelong Study"—will be held next year in Chicago, where we of the American Medical Association will be hosts to our medical colleagues from other lands.

Another new avenue of approach to help the cause of international peace is the Medicine and Health Professions Committee of the People-to-People Program, initiated last year by President Eisenhower. This program is designed to promote close contacts and friendships among individuals and groups who share professional, cultural, and economic interests. It is based on the idea that if the people of the world could begin to know one another—to meet, talk, correspond, and exchange visits—many of the world's troubles would be over. We might then begin to use the knowledge of the atomic age for humanity, rather than in an attempt to destroy our civilization.

American doctors, medical missionaries, nurses, and technicians—serving humanity in farflung parts of the world—are contributing immeasurably to this great cause. The work of some of them was beautifully reported last January in the March of Medicine telecast called M.D. International. They were described as unofficial American ambassadors of good will—men and women who are demonstrating the forceful good that lies in the basic brotherhood of man, who are revealing our greatest hope for the future—man's humanity to man.

President Eisenhower recently pointed out that the armed forces of the United States are only supports for the much larger purpose of a just peace and the advancement of human well-being at home and throughout the world. In the struggle for peace, he said, "the strength that endures rests with those who live in freedom." And he added that "tyranny is too brittle—too insecurely based—too dependent upon force and brutality—too contrary to the hopes and ideals of humanity—to last over the long pull."

Physicians, alerted here and abroad, can do much to advance the cause of freedom and human well-being. For medicine, by its very nature, speaks a universal language dedicated to scientific truth, humanitarian service, individual dignity, and world peace. In medical science there are no secrets, no iron curtains, no cold war. To physicians everywhere, atomic energy means a new way of fighting disease, not a new way of conquering the world. Medicine exists to save life, not destroy it.

The demands of these troubled times require that we perform at only one level—our very best. The time has come for medical statesmanship which will help point the way toward better health—and a better life—for all the peoples of the world.

TEN TYPES OF AMA INTERNATIONAL ACTIVITY

Senator HUMPHREY. Under date of March 6, 1959, Mr. C. Joseph Stetler, Secretary of the American Medical Association, sent to me a copy of related comments by Dr. Gundersen. These comments from Dr. Gundersen's testimony of February 25, 1959, before the Senate Committee on Labor and Public Welfare include quotations from the address reprinted above. The following are additional excerpts of Dr. Gundersen's testimony, listing numerous ways in which the AMA has served the interest of international health. I believe that this summary, which had been presented in connection with S.J. Res. 41, 86th Congress,[1] is an eloquent factual statement of the very impressive contribution of the association. Therefore, I am reprinting it at this point.

[1] This bill was subsequently enacted as Public Law 86–610. See pt. II, pp. 332 ff.

EXCERPTS FROM DR. GUNNAR GUNDERSEN'S STATEMENT OF FEBRUARY 25, 1959

1. The association helped to organize and support the World Medical Association in 1948. We also approved and encouraged a United States committee to aid the World Medical Association financially. This committee has provided, and is furnishing, funds to help finance the WMA secretariat, the publication of the World Medical Journal and specific scientific investigations.

2. An AMA representative has served with the U.S. delegation to the assembly of the World Health Organization, a subsidiary of the United Nations representing governments in the field of medicine.

3. The "Journal of the American Medical Association" is promoted in foreign countries, and now serves as an up-to-the-minute medical textbook for approximately 10,000 subscribers overseas. It can be found in every recognized medical library in the world.

4. Likewise, our nine specialty journals reach thousands of physicians outside the United States, providing them with the latest medical information on subjects relating to their specialties.

5. The AMA has established, developed and maintained the valuable "Standard Nomenclature of Disease and Operations," the only international publication of its type.

6. The AMA library staff compiles the "Quarterly Cumulative Index Medicus," a publication providing pertinent information on medical periodicals, literature and books. Currently there are more than 1,300 foreign subscribers.

7. Other AMA publications which have wide appeal among physicians abroad include "New and Non-Official Remedies" and "Useful Drugs." These publications provide physicians with information on the actions, uses, limitations and dosages of new drugs.

8. AMA medical films are loaned to medical societies all over the world. In the past 10 years the AMA has received approximately 775 unsolicited requests from 70 countries for medical films. While it was impossible to fill all the requests, hundreds of films have been provided on a loan basis.

9. The AMA has been vitally interested in the training, in American hospitals, of physicians educated abroad and is a participating member of an evaluation service for foreign medical graduates. In 1957–58 a total of 7,622 physicians from 90 countries were trained in American hospitals as interns or residents.

10. This year the American Medical Association, along with the Association of American Medical Colleges, will play host to the Second World Conference on Medical Education in Chicago (August 30–September 4). Our association again is giving its wholehearted cooperation to this conference which is expected to draw more than 1,500 persons from all parts of the world.

PEOPLE-TO-PEOPLE MEDICAL COMMITTEE

Senator HUMPHREY. Another channel through which the American medical profession has been in contact with its colleagues abroad is through the expert committee which was organized as part of the people-to-people program.

An editorial on the committee from the March 23, 1957, issue of the Journal of the American Medical Association follows.

WHAT "PEOPLE TO PEOPLE" MEANS

If anyone can fully appreciate the great warmth of interpersonal rapport—and the icy void created by impersonality—he is the private practitioner. To him, the oft-cited "physician-patient relationship" means much more than mere contact of medicine with the individual. It is a sacrament that interrelates the science of medicine with the art of medicine; it is harmonious dynamism in human relations.

For this reason, President Eisenhower's appeal last fall to the medical profession to help effect a people-to-people friendship program strikes a particularly welcome challenge to doctors everywhere. It identifies international relations with the longtime basic concepts of good medical practice. Said the President: "If our American ideology is eventually to win out in the great struggle being waged between the two opposing ways of life, it must have the active support

of thousands of independent private groups and institutions and of millions of individual Americans acting through person-to-person communication in foreign lands."

The secretary general of the World Medical Association, Dr. Louis H. Bauer, who heads a committee to coordinate the health professions in President Eisenhower's program, has reported substantial initial progress. Five specific programs now are being promoted by the committee. From the viewpoint of American participation, the aims call for (1) fulfilling specific requests of foreign health groups for professional and technical data, audiovisual materials, and equipment; (2) encouraging private resources to help improve public health situations through informational materials; (3) planning special hospitality programs for foreign colleagues on visits to this country; (4) stressing the desire of the United States to share its scientific progress by presenting new techniques during visits to hospitals and clinics abroad; and (5) widening participation in international meetings so that American speakers on scientific topics can also project the objectives of people-to-people partnership.

American medicine is not so presumptuous as to suppose that physicians alone can achieve better understanding with persons in health fields throughout the free world. And so representatives of the nursing, dental, hospital, veterinary, and pharmaceutical professions are playing equally active roles in committee planning. The committee hopes to make all members of the health professions individual ambassadors of peace. Already it is helping find opportunities to place Hungarian refugees who are qualified in the physician and nursing fields. The American Medical Association gave full support to the people-to-people program last November when the house of delegates voted unanimously to "join wholeheartedly in an outpouring of neighborliness to make America's peaceful intentions and our democratic ideals understood."

PEOPLE-TO-PEOPLE HEALTH FOUNDATION

Senator HUMPHREY. No reference to the vital international work of the American Medical Association would be complete without pointing up a further phase of people-to-people activity in the form of Project HOPE. I refer, in particular, to support which the AMA has given, especially through the voluntary services of leading AMA members such as Dr. William B. Walsh and Dr. Elmer Hess.

The memorandum which follows was one of the early statements of background on Project HOPE (which stands for "Health Opportunities for People Everywhere)."

BACKGROUND ON PROJECT HOPE

Project HOPE is a privately sponsored program to share this country's modern medical knowledge and skills with the newly developing countries.

HOPE will send a floating medical training center to southeast Asia during its first year of operation. The SS *Hope* was formerly a Navy hospital ship, and is being loaned by the U.S. Government. It will carry the most modern medical equipment and supplies, and training aids. The ship, formerly the USS *Consolation*, is a 15,000-ton vessel, with 230 beds. It was constructed during World War II.

The permanent medical staff of the SS *Hope* will include 15 physicians, 2 dentists, 25 nurses, and 30 auxiliary personnel. Volunteer teams of up to 35 physicians will be flown to the ship on a rotating basis for tours of 4 months. The medical staff will include top specialists in the key fields of medicine. More than 1,500 medical people have applied for assignment on the SS *Hope*.

HOPE is essentially a teaching program, although necessarily there will be treatment involved. American members of the medical staff will be assigned to work in small teams with their local counterparts. This will enable the American staffers to pass along modern techniques and the latest medical knowledge under working conditions.

Part of the medical staff will work on shipboard, part will form mobile, inland teams. They'll work with physicians, surgeons, dentists, health officers, sanitation officials, nurses, midwives, technicians.

Training will also be conducted through classroom lectures and discussions, movies and film strips.

Teaching is stressed because this will enable HOPE to have a more enduring effect on local health conditions than would attempts at widespread treatment. There are too many millions in need of treatment for a relatively small project to have broad impact in actually curing diseases. Concentration on training will enable HOPE to help upgrade the local medical people in their ability to diagnose and treat. Then these people will in turn be able to teach others. HOPE's impact will grow and spread.

The SS *Hope* will visit only those countries that extend invitations. Indonesia is the first stop. The ship will remain there for about six months. Viet Nam will be next, for a four-month stay before its return to the United States. Invitations have also been received from Korea, Okinawa, and Pakistan. The ship will leave for Indonesia in the late summer of 1960.

HOPE's program will be geared to the specific needs of the countries visited. Activities will be worked out in advance with local doctors. This will enable HOPE to concentrate on the most serious and pressing problems of each country.

It will cost about $3.5 million for one year's operation of the SS *Hope*. The money is coming from private contributions—from business and industry, labor unions, other private groups and individual contributions. Contributions are tax deductible. The Government's only role is loan of the hospital ship.

Chairman of HOPE's Board of Directors is L. F. McCollum, president of Continental Oil Co. Ernest R. Breech, chairman of the Ford Motor Co., heads HOPE's Business and Industry Committee, which has charge of corporate fund raising. Some of the most noted men in American business are heading committees for individual industries.

Support for Project HOPE is widespread. It has been endorsed by the American Medical Association, the American Dental Association, and many other medical associations. It has the personal backing of President Eisenhower, who made the decision to lend the hospital ship.

The American President Lines will operate the SS *Hope* at cost. Drug and pharmaceutical companies of the United States will supply the drugs and medicines needed. The American petroleum industry will give the fuel needed for the ship. The Pure-Pak Division of Ex-Cell-O Corporation is underwriting a major motion picture project to raise funds for HOPE.

The need for HOPE is great. In much of Southeast Asia, there just aren't enough doctors to go around. In Indonesia, for example, there is one doctor for every 71,000 persons. In the United States, there is a doctor for every 750 persons. With such a shortage, the doctors are so busy they find it difficult to keep up with modern techniques and developments. And they can't get away to Europe or the United States for advanced training. Project HOPE will, in effect, bring the medical school to them.

Poverty, disease, malnutrition are common in Southeast Asia. Millions of people there are caught up in a vicious circle. They have to produce to survive, and unhealthy men cannot produce.

HOPE's medical staff will benefit too, in new-found knowledge. Information will flow both ways. The experience to be gained in diagnosis and treatment of tropical diseases could not be gained anywhere in the United States.

HOPE is an experiment in international cooperation. HOPE's backers believe better understanding among the peoples of the world can be achieved on a personal level, through friendship, sharing knowledge, and helping others to help themselves.

These people-to-people contacts can help form the basis of a lasting peace.

Project HOPE is headed by Dr. William B. Walsh, Washington, D.C., internist and heart specialist. HOPE is the major activity of The People-to-People Health Foundation, an outgrowth of President Eisenhower's People-to-People suggestion made in 1956.

HOPE means Health Opportunity for People Everywhere.

SUCCESSFUL TRIP TO INDONESIA

Senator HUMPHREY. As of January 1961, when this volume was sent to press, the hospital ship *Hope* was successfully completing its initial trip to the Islands of Indonesia, with many glowing reports already received from observers.

STUDY BY AMERICAN MEDICAL ASSOCIATION

Senator HUMPHREY. Further indicative of the international interest of the American Medical Association was the fact that in the latter part of 1959 it authorized a special survey on international medical research and medical assistance programs.

AMA programs, committees and activities with international implications were carefully and extensively set forth in the course of the survey, I understand.

ROLE OF THE WORLD MEDICAL ASSOCIATION

Senator HUMPHREY. An organization contributing significantly to world health is the World Medical Association. The subcommittee, from the inception of its study, was in close touch with Dr. Louis Bauer, then secretary general of the association, with headquarters at 10 Columbus Circle, New York 19, New York.

The issues of "The World Medical Journal," official journal of the association, have been a storehouse of information for the subcommittee.

I should like to cite at this point two of the very pertinent articles contained in past issues of the journal. These articles were published in connection with the 12th General Assembly of the World Medical Association, held in Copenhagen, Denmark, commencing August 15, 1958, at the very time our own enabling resolution was enacted.

The first article concerns our American role. Naturally, we of the United States are particularly interested in the approach of the American delegation to each general assembly. For that reason we turn to comments on the part of one well qualified to present them, Leonard W. Larson, M.D., an outstanding leader of the American Medical Association and currently its president-elect. His comments were one of a series of reports published in the November 1958 issue. These reports consist of the member associations' statements of expectations of their respective delegations to the general assembly.

The role of the general assemblies themselves was described in a clear and forthright exposition by Dr. Bauer. His comments, reprinted below, were published in the September 1958 issue of the journal.

REPRINT FROM "WORLD MEDICAL JOURNAL," NOVEMBER 1958

UNITED STATES

(By Leonard W. Larson, M.D.)

In a world overrun with confusion and resentment—where nations eye one another with suspicion—it is heartwarming to realize that physicians everywhere still cherish the same basic ideals and the same devotion to the welfare of mankind.

In this world where governments hesitate to exchange atomic secrets, physicians willingly share the latest medical known-how in an effort to improve the health of all peoples.

Through the World Medical Association—now in its 11th year—physicians offer a kind of foreign aid with no strings attached. Their exchange of current medical information and guidance is the sort that can be readily understood and appreciated by the citizens of the world.

Today The World Medical Association is a vital force for world peace. No other group has a greater opportunity for bringing about better understanding

between peoples of different countries than the medical profession. As Dr. Gunnar Gundersen so aptly stated last year: "World peace cannot be attained until we build peace into the hearts and minds of men. Since physicians are the most intimately acquainted with the physical and mental needs of their patients, they are the most logical engineers for this great moral reconstruction project."

The World Medical Association is a shining example of President Eisenhower's "people-to-people program"—continuing to strive for international understanding through individual contacts. Its 700,000 members work for a common goal—the relief of human suffering. WMA has indeed earned the right to call itself "the international voice of organized medicine."

Its programs to assist the people of all countries to raise their standards of health and to promote an increasing exchange of medical information are the consequence of a unified action. The doctors of the world recognize that their strength lies in their unity of purpose. Since its inception in 1947, The World Medical Association has continued to grow in membership and stature and its opinions on medical matters are sought by internationally recognized bodies.

As one of its founding members, the American Medical Association continues its wholehearted support of the WMA's basic programs and objectives. The American Medical Association firmly believes that its delegates to The World Medical Association have a moral responsibility to uphold the representative thinking of our members within the framework of The World Medical Association. Our delegates should remain as openminded as possible and yet always remember that they speak not as individuals but as representatives of the American Medical Association membership.

In addition, the American Medical Association realizes that the language of health and medicine is universal. Our delegates readily offer the services and facilities of the American medical profession to the doctors and citizens of all countries for the betterment of health and medical care. We have always believed that American scientific knowledge and progress should be made available to the peoples of the world.

The principal reason why the American Medical Association delegation supports the free practice of medicine and the free enterprise system of providing medical care—in contrast to governmental programs—is because we recognize that this system has helped our Nation achieve the highest standards of health and medical care in the world. We know that the free system works. Bolstered by World Medical Association principles and ideals, physicians everywhere can achieve a unity of purpose against government encroachment on the free practice of medicine.

Finally, the American Medical Association recognizes The World Medical Association as the international leader of the medical profession. WMA has proved effective on the international scene. The obligations and responsibilities inherent in its leadership are heavy. But the American Medical Association believes that The World Medical Association has the greatest potential for achieving an interprofessional unity and strength dedicated to a free profession and a free way of life.

REPRINT FROM "WORLD MEDICAL JOURNAL," SEPTEMBER 1958

ACTIVITIES OF THE GENERAL ASSEMBLIES OF THE WORLD MEDICAL ASSOCIATION

(By Louis H. Bauer, M.D., Secretary-General)

By the time this issue reaches the readers, another General Assembly will have become history. Perhaps we would do well to pause and take stock of these twelve assemblies, and ask ourselves certain questions.

Have the Assemblies been worthwhile? Have we made reasonable progress? Should we continue them as they are? Are we fulfilling our obligations to the profession? What ought we do that we are not doing?

First, then, let us consider some of the accomplishments of the General Assemblies.

Not much could have been expected out of the First General Assembly, except organization. To weld representatives of the medical profession from various parts of the world into a concrete unit was an accomplishment in itself.

From then on, however, there developed certain trends in the activities of the Association. Three of these trends could be briefly summarized as—medical education, medical ethics, and medico-social affairs.

Medical Education.—I believe we can say that our activities in medical education have been the most worthwhile of all and have brought about greater prestige to the Association than anything we have attempted. The General Assemblies have followed these activities with keen interest and have given unstinted encouragement and approval to the efforts of the Council and Committees in this field. In this area also we have had the whole-hearted collaboration of the World Health Organization, the International Association of Universities, and the Council of International Organizations of Medical Sciences.

Medical Ethics.—Medical Ethics which covers a broader field than the term indicates was one of the earliest subjects to elicit the interest of the General Assembly. A study of war crimes brought about the Declaration of Geneva which was issued at the Second General Assembly. This was not an attempt to discard the Hippocratic Oath but rather an attempt to bring it up-to-date. It quickly resulted in the Third General Assembly adopting the International Code of Medical Ethics. This has become the basis of later studies on medical law, an emblem to protect medical units and personnel engaged in civil defense, and regulations governing its use. This led early to a discussion and tentative regulations governing human experimentation. These regulations have been amended and are under still further study.

While related to medical ethics only as one subject among many others, the Third General General Assembly adopted another policy which has been responsible, in part, for the support of member associations of varying size. This policy is that "All reports, opinions, and recommendations are to be so worded that no national medical association could in any way assume or construe them to indicate that The World Medical Association was assuming to dictate policy to member associations."

Medico-Social Affairs.—The third activity which has been an important one is in the field of Medico-Social Affairs.

Principles governing medical care when it is delivered in connection with social security schemes were adopted early (1948) and have been reiterated several times since. At least one whole day in each General Assembly has been devoted to a discussion on this subject. In reading over these discussions from year to year it would seem that much time has been wasted in repetition. Only in the 10th, 11th, and 12th General Assemblies have there been coordinated discussions on specific topics which have been productive in useful action.

Granted that this is a most important topic in *all areas* of the world, and not just in some, as many people believe, our approach must be positive and not negative. Too often, it seems to me, we have been negative. There are many aspects of medical care as administered under social security that are not in the best interests of the patient and contrary to the principles of good medical care. The freedom of medicine is being attacked from many quarters. All military men agree that the best defense is a good offense, and too often the medical profession has been merely defensive in its attitude.

In this field I believe our member associations expect more of us than we have accomplished so far.

Miscellaneous Activities.—Other activities generated in or sponsored by the General Assembly have included a publication of a World Medical Journal; a program for improvement of international relations; activities in the field of occupational health services; the creation of a central repository for medical credentials; an annual session on the problems of medical journalism; and an annual scientific session.

The Journal has elicited much more interest in the past two years because of the increasing cooperation of representatives of national medical associations in furnishing material. The Journal could well become a source of considerable income to the Association but it needs still more international cooperation to do so.

The proposed activities in occupational health have been a flat failure so far because of the lack of funds.

The central repository bids fair now to become an outstanding success in filling one of the great needs of the medical profession.

Journalism.—The problems of medical journalism while not of direct interest to every doctor are of direct interest to every medical association and certainly of indirect interest to every doctor. It is through the efforts of journalism that the doctor receives a large part of his continuing medical education.

There is no doubt that there are too many medical journals and no one person can keep up with all of them even in a restricted field.

The meetings of The World Medical Association on this particular subject are important and, when possible, should be expanded. The collaboration of the International Union of the Medical Press is proving increasingly valuable.

Scientific Sessions.—The scientific sessions of The World Medical Association began with the Fourth General Assembly in New York and have been a continuing feature of each Assembly ever since. In 1951 television was added as a special feature. This year an international film program was integrated with the daily sessions, and scientific exhibits have been shown at several assemblies.

There has been some criticism that scientific activities should not be a part of the General Assemblies. Since the Constitution and By-Laws provide for improving of health of all people and for distributing information of interest to the medical profession, such a criticism seems hardly justifiable.

While it is true that in some countries there are two types of medical associations, one scientific and one purely professional, that division exists only in a minority of the member countries. While The World Medical Association is not *primarily* a scientific body, nevertheless if it divorces itself from all scientific activity, it will no longer be able to represent the medical profession on many problems being considered at the international level, because many of these problems cannot be entirely separated from the scientific aspects of medicine.

Civil Defense Emblem.—The new medical emblem can only become effective after it has been adopted first, nationally, and finally, internationally. The International Committee of the Red Cross is proving most helpful in this project, but the member associations must do their share and the delegates to the General Assembly can stimulate their national associations to move fast in implementing a program of importance, not only to the medical profession, but to the entire civilian population.

Central Repository.—The Second World War and the Hungarian tragedy emphasized the great need for a Central Repository for Medical Credentials. This has now been made possible. The General Assembly has approved the actions of the Council and the Secretariat. The matter will stall unless the national associations or supporting committees take action to implement the project in their countries. The delegates to the General Assembly can again act as the stimulus to progress.

World Peace.—The program for furthering world peace was a wonderful step toward promoting understanding among the peoples of the world. The program divorces itself completely from politics and confines itself entirely to what the medical profession itself can do. The implementation of this program depends not only on the medical associations but also on their individual members. "Each individual doctor an ambassador for peace" can well be our slogan.

Summary.—To sum up, I believe we can say that with one or two exceptions the General Assemblies have been worthwhile and increasingly so. As to progress we have made excellent strides in medical education, international liaison, medical ethics and certain specific projects, such as the civil defense emblem and the central repository. We have made moderate progress in journalism and medico-social affairs. We have fulfilled some of our obligations to the profession and could do much more in that regard if we had (1) better cooperation from many member associations, which now fail to answer correspondence or fill out questionnaires; and (2) more funds.

With the changes which have been made in the proceedings of the General Assembly, we should continue striving to bring more and more delegates into active participation in the Assembly. Finally, we must work out constructive plans which should be labeled the *plans for the medical profession*, for solving the problems of improved medical care and higher standards in medical education. Having established these plans we must work for their adoption.

LETTERS FROM NATIONAL MEDICAL ASSOCIATIONS OF OTHER COUNTRIES

Senator HUMPHREY. There follow letters from some of the many medical associations which have corresponded with the subcommittee. In some instances, prominent members responded as individuals rather than from an association, as such. The letters are presented alphabetically by nation.

AUSTRIAN MEDICAL BOARD,
Wien, April 24, 1959.

DEAR SIR: Your inquiry concerning the promotion of medical research and asking us to suggest this has honoured us greatly. We shall be glad to inform you of our opinion. Referring to your question (A) to speed the conquest of universal diseases, it would be advantageous to concentrate all possible efforts to achieve this aim without any restriction whatever, i.e., that all medical congresses, symposiums, and meetings should collaborate more intensely and exchange ideas, results of research, and experiences as well as the distribution of published material.

Austria for instance would certainly be able, if its means would be aided, to valuable development in abdominal surgery, psychiatrie, cancer, prophylactic, and social medicine, rehabilitation, etc.

As to your question (B) it is our opinion to strengthen the development of the nations in Asia, Africa, and other underdeveloped countries, it would be necessary to send there a number of physicians who would follow the example Dr. Schweizer set in helping and informing the inhabitants of the countries, what would be necessary for their welfare.

These physicians would have to ask for assistance from developed countries to get all the material wanted to achieve a success in their work.

The Austrian Medical Board would be very glad to collaborate with your committee and its Director of the Section for Foreign Relations, Dr. Ernst Musil, would greatly appreciate any suggestion given.

We remain, dear sir,

Yours sincerely,

OB. MED. RAT PRIM. DR. KONRAD EBERLE, *President.*
DR. ERNST MUSIL, *Director of the Section for Foreign Relations.*

THE CANADIAN MEDICAL ASSOCIATION,
Toronto, Canada, March 10, 1959.

DEAR SENATOR HUMPHREY: * * * This reply must necessarily embody my personal opinions on the very broad and important questions which you ask since the association which I represent has not studied these specific problems and has therefore no policy statement to quote. I gather that it is the purpose of your subcommittee to consider the relations of the Government of the United States to international organizations in general and to medical international organizations in the present instance.

* * * * * * *

To attempt to answer your two basic questions makes me feel presumptuous and to claim wisdom which few mortals possess. However, they are very important questions and for what it is worth, I will give a brief and I hope not too superficial opinion.

Measures "to speed the conquest" of the degenerative and other disorders which you enumerate will only be possible with new knowledge of their characteristics and in some instances their causes. Aside from the occasional flash of inspiration which occurs to the trained mind, we know that such new knowledge is only amassed by painstaking investigation and research. The short answer to the question, then, is—support pure and applied research and assist in the training of researchers. It is my view that grants, limited in time, in aid of specific research projects, are not necessarily the best way of providing such financial support. It may be that an investment in a university department or a laboratory of proven worth over a relatively long term of years will permit the retention of staff and in the long run, be more productive.

The disabilities which you mention are of course worldwide in their distribution and the question arises whether research subsidized by American dollars should be confined to the United States. I believe that a very substantial portion of your funds should be so directed, the remainder being distributed to foreign research institutions in a manner similar to that formerly adopted by the International Division of the Rockefeller Foundation.

The developing nations in those areas of the world where self-government is emerging have in common the basic problem of low per capita income and an economy which is geared to subsistence. The provision of adequate food supplies for these rapidly increasing populations is more fundamental to their health and welfare than any other single factor and this will require more than medical

attention. The following quotation from a statement of policy of The Canadian Medical Association will indicate our belief that good health is not entirely a matter of doctors and doctoring:

> Health is a state of complete physical, mental, and social well-being and not merely the absence of disease. Among the factors essential to the achievement of good health are adequate nutrition, good housing, and healthful environmental conditions generally; facilities for education, exercise, and leisure; and not least, wise and sensible conduct of the individual and his acceptance of personal responsibility for maintenance of health.

Although the promotion of health may be regarded as one of the fundamental needs of all peoples, the development of scientific medicine in some of these countries is likely to be considered too expensive to institute within the measurable future. I do not believe that personal health services on the scale we are accustomed to will be possible for us to supply and the provision of such services through indigenous personnel must await their advances in education and many other fields.

I believe that our present efforts to help them should be through the preventive services, so well demonstrated through that exemplar of international organizations, the World Health Organization. The record of WHO is impressive in the first 10 years of its existence and it would be my hope that the United States will continue its financial and other support of this most useful of agencies.

It was my privilege to attend the 10th anniversary session of WHO in your home city of Minneapolis and I know that you are aware of the remarkable progress which was there reported.

There is one other area in which I think that Western medicine can help underdeveloped countries to help themselves. I refer to the provision of teachers in the preclinical and clinical subjects to medical schools in countries which are attempting to catch up with modern scientific medicine. Brief visits from traveling teams do little more than confirm their deficiencies and produce dissatisfaction with their lot after the team has returned home, having given a glimpse of an unattainable standard of care. I am advised by competent personnel in such backward countries that what is really required are teachers of near professorial rank who would be posted to a native school for a minimum of 3 years. Our policy of retiring teachers of surgery at 60 and professors of medicine at 65 provides one source of talent which might well be utilized if funds were available to engage them and WHO or some other agency would organize the postings.

I am not so favorably disposed to the policy of facilitating postgraduate training in Western countries for qualified doctors from abroad. I know that this has enjoyed great popularity and considerable support but my observation is that in far too many instances such postgraduate students are unwilling to return to their country of origin to apply what they have learned. Their retention in the host country is wasteful and their presence imposes many problems of assimilation. It is my view therefore that it is preferable to send teachers to them rather than encourage students to come to us.

You invite comment on a series of supplementary questions.

From this short distance across the undefended border, it is my observation that the strengths of the health programs of U.S. Government agencies far outweigh any weaknesses which are evident. The availability of VA for non-service-connected disabilities seems to me to represent a wasteful application of the original purpose but I have no doubt that powerful considerations have dictated the arrangement and it is presumptuous of me to make such a comment.

Continue your support of research through NIH for domestic purposes and for a substantially smaller international effect through ICA and WHO. Although the latter agency is not primarily concerned with research, many of its service activities do have research content and I would again state my view that support of WHO represents the best investment in international health services which is available.

I am not aware of any major obstacles to expanded world medical cooperation since the health field is particularly adapted to international joint action. The international circulation of medical literature, the activities of such bodies as the World Medical Association and WHO all suggest that the channels are open and I believe are likely to remain so. One minor point which might prove an obstacle is the observable tendency of some countries, including the United States, to permit extraneous considerations such as governmental political attitudes to influence the opinion of delegates on matters exclusively or principally in the field of health. For example, I have witnessed delegates being instructed

to oppose suggestions originating behind the Iron Curtain, not on their merits, but because the governments concerned were in disagreement on issues completely unrelated to the subject under discussion. I believe that such instances are rare, however, and I mention the situation only as a trend which I think should be avoided in health affairs.

Canada is so closely akin to the United States in medical affairs that it is unnecessary for me to point out regions where more cooperation is indicated. I would remark, however, that the recent introduction of universally available hospital care insurance in most Provinces under Government auspices represents a significant step which to my knowledge has no precise counterpart in the United States. I hope that American observers will stay closely in touch with this important development and that an openminded attitude will prevail as more experience is gained.

I hope that these remarks may prove to be helpful in the work which your subcommittee is undertaking. Thank you for asking my opinion.

Your sincerely,

DR. A. D. KELLY, *General Secretary.*

THE FINNISH MEDICAL ASSOCIATION,
Helsinki, May 19, 1959.

DEAR SENATOR HUMPHREY: Many thanks for your letter of February 19 to the Finnish Medical Association. The questions posed have been discussed in the appropriate committees of the association. The following opinions were formulated.

What can and should be done to speed the conquest of universal diseases, such as cardiovascular ailments, cancer, neurological, mental, and other disorders?

In these fields further research is obviously needed. In order to get the best possible results, research on these subjects should be supported on a broad international and long-term basis. The experience gained by the large foundations like Rockefeller Foundation should be used in the formulation of the policy of grants. Research centers should be supported in different parts of the world. The communication between them should be encouraged. Whereas at present communication between individual investigators and research institutions in the United States appears to be intimate, this is not so in Europe. Neither the individual investigators nor their institutions have sufficient funds at their disposal for attending meetings or visiting laboratories even in nearby countries.

Fellowship programs should be developed which allow for work of United States or other investigators in institutions of choice, independently of their situation. Thus, money should be made available, e.g., to an Italian for work in a Finnish laboratory, when the subject and other conditions are acceptable.

What can and should be done in particular to strengthen developing nations in Asia, Africa, the Middle East, and Latin America in conquering infectious and other diseases?

The experience gained in this country, as well as probably also in other countries, makes us lay particular stress on an adequate training of medical personnel at all levels abroad, in more advanced countries. Teachers of medical schools, physicians in administrative and hospital duties, laboratory experts, nurses, technicians, etc., should be included in the program. When there once is personnel at all levels who are used to the desired ways of thinking and doing, the medical services have the possibility of rapid development.

To support this program, it is absolutely essential to secure the existence of at least one medical school of international standard in the area concerned. To start with, a substantial number of foreign teachers and investigators may be needed, but the aim is, of course, to transfer the teaching and research gradually to the citizens of the country. Again, the experience gained by the Rockefeller Foundation in China before World War II may provide a workable pattern.

Supplementary questions:

As far as we have been able to gage the scope of the U.S. Government health programs, they appear to be sound and worth following in many respects.

Among ways of accelerating sound medical research and cooperation, we would lay particular weight on the organization of international cooperative studies and on exchange programs. We do not expect too much return from additional efforts on abstracting and translating programs.

One of the major obstacles to expanded medical research still is the shortage of economical resources for research purposes in many laboratories where intellectual ability and trained personnel is available. This results in—

lack of equipment;

low salaries for the research staff, with the necessity of getting other subsidiary sources of income.

Such conditions are apt to frustrate trained personnel and to make them drift into other positions.

Medical centers working under these conditions may not be expected to contribute essentially to world medicine, but will, in the main, remain on the receiving side.

Money still is one of the major bottlenecks.

The Finnish Medical Association greatly appreciates your efforts in furthering world medical cooperation and is happy for having been given an opportunity to express its views. They don't contain anything new or novel, but they do stress the point that you are doing work of great importance to all mankind.

On behalf of the Finnish Medical Association,

URPO SIIRALA, *Chairman of the Board.*
VÄINÖ PENSALA, *Secretary.*

INDONESIAN MEDICAL ASSOCIATION,
Djakarta, October 14, 1959.

DEAR SIR: * * *

Referring to the questions in your letter and the enclosed memorandum we would like to stress that an international cooperation as planned by you would be most welcome in our country.

Facilities for research are available in Indonesia. We have a number of institutions such as institutions grouped in different medical schools and institutions of the department of health located in different areas of the country where international research could well be undertaken.

We, naturally, consider basic and applied research in the field of medicine as most important. Nevertheless, the amount of work undertaken up to now, is limited. Much more research work could be done if full use could be made of the facilities available in this country. This could, unfortunately, not be realized at present because of the great shortage of research workers in particular and of physicians in general.

You probably know that an affiliation has existed between the University of California School of Medicine, San Francisco, and University of Indonesia School of Medicine in Djakarta which, under sponsorship of ICA, was started in July 1954.

This affiliation, which will be terminated in July 1960, is an enlightening example of a fruitful cooperation between East and West in which Indonesia has profited highly and the USA has gained considerable prestige. Through this affiliation the University of Indonesia School of Medicine has been able to increase the annual output of graduates from 50 to 150 physicians. Besides that it has been able to set up a Teachers Training Program too, not only to adequately train staffs for its own departments, but also to serve at other medical schools in Indonesia. This training of specialists in various branches of medicine could be intensified in the last 5 years owing to ICA fellowships which have enabled them to go to the USA for one or more years additional study. It is unfortunate that the annual number of fellowships alloted by ICA for this purpose in the last 3 years has been far below the demand.

We would suggest that such kind of an affiliation in the field of research be established between the USA and Indonesia.

With the view of the extremely good results we have had with the cooperation between the University of California and the University of Indonesia we are confident that a similar cooperation in the field of research will be also successful.

Sincerely yours,

SOEWADJI PRAWIROHARDJO, M.D., *Secretary.*

THE JAPAN MEDICAL ASSOCIATION,
Tokyo, Japan, September 4, 1959.

DEAR CHAIRMAN HUMPHREY: I received your letter dated February 19, this year about some questionnaire concerning the conquest of universal diseases such as cardiovascular ailment, cancer, etc., and conquering infectious disease in Asia and other undeveloped area—also enclosed a memorandum in same envelope.

Since that time we received two prints sent me by your heartful kindness such as namely "The Status of World Health" and "International Medical Research."

It was very effective and useful for us.

We also know your plan of studying international health, and current congressional activities of interest, especially to establish a National Institute of International Medical Research.

How brilliant plan it is!

I suppose perhaps many existing human pains and suffering by numerous ailments shall be reduced or eradicated by your Senate new activities.

Now-a-day United States has already been contributing in every field of science particularly medical aspects.

Still more new plans by United States Senate must be strengthened cooperation in the world medical research and assistance, and this would be a contribution to all people for their health in the world.

We earnestly desire you to send us your committee prints in future.

It was very interesting and useful.

May I take this opportunity to express my appreciation for your kindness sending me the letter and such valuable prints.

Sincerely yours,

YUSHICHI MINAMIZAKI,
Secretary General.

LETTERS FROM U.S. STATE AND COUNTY MEDICAL SOCIETIES

Senator HUMPHREY. The subcommittee addressed inquiries to State medical societies throughout the United States as to any views they might wish to present to the subcommittee as regards international medical cooperation. A great many valuable responses were received from State, county, and city medical groups including editors of their official publications.

In many instances, the president or the executive secretary of a medical society forwarded to the subcommittee the names of leading physicians whom they suggested be contacted for authoritative, individual views. The subcommittee followed up and received in response from such physicians much helpful judgment.

The following are a few of the representative responses received by the subcommittee.

CONNECTICUT STATE MEDICAL SOCIETY,
New Haven, May 8, 1959.

MY DEAR SENATOR HUMPHREY: It is my privilege to thank you in behalf of the Connecticut State Medical Society for the invitation set forth in your letter of March 18, 1959, to cooperate in the International Health Study which your Subcommittee on Reorganization and International Organizations is conducting.

* * * * * * *

Your invitation received careful consideration by the Council of the Connecticut State Medical Society at its meeting on April 22, 1959. As the senior of Connecticut's three delegates to the American Medical Association, I outlined to our council the current philosophy and position of the AMA with respect to U.S.-foreign medical teamwork. These were ably set forth by the AMA President, Dr. Gunnar Gunderson, in the presentation of his statement on S.J. Res. 41 before the Senate Committee on Labor and Public Welfare on February 25, 1959.

The Connecticut State Medical Society is fully in accord with Dr. Gunderson's expressed belief that the promotion of international health through research is one of our best means of promoting international cooperation and understanding. It also agrees that the greatest care should be exercised in setting up research grants and research programs designd to further this end.

In order to support and assist the American Medical Association in providing maximum help and leadership to national and international efforts for the promotion of good health throughout the world, the Council of the Connecticut State Medical Society has instructed its AMA delegates to familiarize themselves with the material which you kindly sent us, to encourage other members of our State medical society to become interested in the efforts and to transmit such opinions as may be expressed by members of the society to the AMA. In this way, the distilled wisdom of the many can be made readily available for most effective application.

May we thank you also for the warm tone of your letter and for your personal efforts in the promotion of good health for all peoples, a goal which we hold to be one of the most important in the world today.

Sincerely,

JOHN N. GALLIVAN, M.D.,
AMA Delegate, President-Elect of the Connecticut State Medical Society.

MEDICAL SOCIETY OF DELAWARE,
Wilmington, February 18, 1959.

DEAR SENATOR HUMPHREY: Dr. A. Henry Clagett, Jr., has asked me to reply to your letter and memorandum of February 11, regarding international medical cooperation. We of the Delaware State Medical Journal are completely agreed that medical journals can be a potent factor in promoting international understanding in cordiality. In an attempt to meet our obligations in this respect, we have maintained an oversea exchange list for some time. We have expanded this list when possible, and would be perfectly willing to expand it further, subject to our immediate obligation to keep the journal solvent and available for the use of the members of the Medical Society of Delaware. As a small magazine with a total circulation considerably under 1,000, we have met problems with oversea exchanges. While we neither need nor want direct subsidy of our exchange list, we feel that certain changes in the postal regulations would enable us to promote more effectively the international exchange of medical information.

We would suggest for consideration by your subcommittee and by the Committee on Government Operations the following two changes in postal regulations which would, we feel, greatly increase the number of journals available for oversea exchange, not only in Delaware but from the country as a whole. First, we would suggest consideration of free postage for oversea exchanges, as distinct from oversea subscriptions. Second, we feel that exclusion of oversea lists from calculations of percentage of free distribution required for maintenance of a second-class permit would remove the effective (and rather small) limit on journals available for oversea distribution.

We appreciate your interest in this problem, and the opportunity to present our views on the subject.

Respectfully,

LAWRENCE C. MORRIS, Jr.,
Business Manager, Delaware State Medical Journal.

RHODE ISLAND MEDICAL SOCIETY,
Providence, March 30, 1959.

DEAR SENATOR HUMPHREY: Your letter of March 18 to Dr. Thomas Perry, Jr., secretary of the Rhode Island Medical Society, has been referred to Dr. Meyer Saklad and to me to answer the question which it contains and to present any helpful comments that we may be able to make. I have received the material first and am sending it to Dr. Saklad, who has not yet seen it.

By way of introduction may I say that in my judgment cooperation in scientific and medical research, including clinical research and exchanges in the understanding of the clinical applications of research, are of the greatest value in the promotion of international understanding and good will. It is obvious to me that this is the opinion of your committee.

In this matter the work of private agencies is of particular value, I believe, because it is true that some countries are suspicious of anything that is done by government and fear political implications. Our oversea medical projects, under the auspices of the Unitarian Service Committee, for example, are, we are told, fully as valuable for the spirit of friendship, understanding, and mutual confidence which they inspire as for any technical assistance which they give. My own experience on a USC project in Munich in 1948 bears this out, and Dr. Saklad, who has been on several such missions and individual trips of his own, will, I am sure, express the same opinion. As national chairman of the National Committee for Resettlement of Foreign Physicians for 8 years, and a member of the program and medical advisory committees of the Unitarian Service Committee, I have become even more deeply impressed with the value of this type of work.

Incidentally, I was very appreciative of the things you said in your letter to our acting associate director of the USC concerning our plan of a hospital-to-hospital exchange between Miriam Hospital in Providence and Poriah Hospital in Israel. It was my feeling that this would be a pilot project which would be sure to succeed because of existing good feeling, and that we could then attempt similar cooperation between hospitals in the United States and in other lands where the results might be of greater value in that the need for mutual understanding is greater. In particular, it would be well, I should think, to arrange such exchanges between hospitals in this country and those behind the Iron Curtain.

In the matter of strengthening international collaboration toward the conquest of major killing and crippling diseases, there are a number of ways in which the U.S. Government can be a major factor. Of course, the matter of taking its full share in international meetings and conferences can be mentioned as important—this and the giving of aid to foreign medical scientists who wish to work in this country. A third and very important way of making progress toward the same end is in aiding private agencies and groups who are planning to visit foreign countries to participate in their medical work and learn from them as well as aid them. Government support of non-Government projects which often will mean that those projects can be successfully carried out, would I believe, accomplish a great deal. Two-way projects by which physicians visit a foreign country for a period of several weeks and physicians from that country come to the United States, will, I believe, be of especial value. We can learn a great deal from the medical profession of foreign countries and they can learn from us. Such mutual help would lay the foundation for major efforts in the investigation of many of the most important diseases of the world.

It has been a privilege to write to you on these matters.

Very sincerely yours,

ALEX. M. BURGESS, M.D.

DEPARTMENT OF ANESTHESIOLOGY,
RHODE ISLAND HOSPITAL,
Providence, April 22, 1959.

MY DEAR SENATOR HUMPHREY: Your letter of March 18, with accompanying committee prints, to Dr. Thomas Perry, Jr., secretary of the Rhode Island Medical Society, has been forwarded to Dr. Alex M. Burgess and to me to answer.

I have read the material related to "Statutory Authority for Medical * * * Research" and the compilation of material on "International Medical Research" with great interest. I believe very strongly that establishment of an institute of international medical research will do much to conquer many of the ills of man, physical and mental.

My feelings in this are strengthened by my experiences and efforts in international cooperation in the field of medicine. I served as one of a group of experts on medical affairs in Poland and Finland with the World Health Organization and the Unitarian Service Committee in 1948, and in Japan for SCAP in 1950. In 1957 I visited Czechoslovakia and Poland in an endeavor to set up medical exchange programs. In 1958 I returned to Japan to survey the progress of my specialty, and to present several papers.

In response to your request as to what the U.S. Government should do, I would like to submit the following:

The Government should do as you are trying to do—set up an institute of international medical research, whose functions and responsibilities should be, and I quote from page VIII of "International Medical Research: A Compilation of Background Materials," a development of teamwork—

"Between the broad variety of American foundations, voluntary health agencies, universities, institutes, hospitals, and other organizations interested in health at home and abroad; and

"Within and between the governments of the nations of the world themselves."

This, of course, is a tremendously large undertaking. I should like to stress one or two points.

The agencies and institutions involved should be encouraged to study specific needs, and to become aware of areas to which we may render service, and from which we may improve our own knowledge. It should be the responsibility of such agencies and institutions to notify the institute, whose further function it should be to make the above possible.

I believe that efforts expended to improve communication between scientists in different parts of the world will have a twofold salutary effect. First, an improvement in man's physical and mental well-being throughout the world and, secondarily, a betterment of international understanding.

All means of improving such intercommunication should be encouraged. Especial attention should be given to the furthering of contacts on a personal basis. The most productive communication from all points of view is between individuals, as contrasted with groups and committees, on an informal and agenda-free basis.

I believe it is very important that somewhere in this new agency there should be someone with broad knowledge in medicine, who should acquaint himself, as far as possible, with established contacts between scientists in this country and other parts of the world, and to further them insofar as possible. Where there may be need, and contacts are lacking, it should be his endeavor to locate the proper individuals in this country to seek out their opposite numbers in other parts of the world for the establishment of closer ties. There are many such relationships which need to be fostered.

The need is a bilateral one, and it should be the endeavor of the institute to seek out our needs and weaknesses, and to determine how we too can profit from such improvement in international understanding, good will and free exchange of ideas.

I wish to commend your committee and yourself for this broad outlook for the improved care of peoples throughout the world. My heartfelt good wishes to you.

Very sincerely yours,

MEYER SAKLAD, M.D.

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2. SPECIALIZED INTERNATIONAL MEDICAL ORGANIZATIONS

Senator HUMPHREY. One of the most important points of emphasis of this subcommittee has been on the role of professional medical organizations.[2] I refer to both national and international groups, and general and specialized organizations.

I feel—and I believe it may be the judgment of my colleagues—that everything which this subcommittee may be in a position to do to encourage the international activity of private professional organizations may represent a contribution to world health.

Medicine's professional organizations have always represented one of medicine's greatest assets—for it is in the professional organization that the highest ideals of the profession can be advanced. Some of the most helpful suggestions which this subcommittee has received have come from international professional organizations. In every field of international medical cooperation, it is these groups which can be the spearhead of strengthened teamwork.

This subsection will cover specialized—as distinguished from general purpose—medical organizations.

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[2] See pt. III, pp. 769 ff. on the American Medical Association and pt. I, pp. 188 ff. in connection with the Council for International Organizations of Medical Sciences (CIOMS).

TYPES OF QUESTIONS COVERED

Within the pages which follow is evidence bearing upon such important questions as:

What are the views of the officers of international medical organizations as to current problems in international collaboration?

What do they regard as the highest priority needs?

What do the officers believe should be the role, if any, of national governments and of intergovernmental organizations in assisting associations?

Would governmental support to international medical organizations compromise the independence of these groups?

GROUPS WHOM WE CONTACTED

By way of background, we may note that as soon as our study commenced, we made a determined effort to contact as many of the specialized international nongovernmental organizations as possible. We wrote to all groups which have relationships with the World Health Organization and are members of the Council for International Organizations of Medical Sciences. In addition, we wrote to many other groups not affiliated with either of these organizations.

We made a review of whatever literature is available on the subject of international professional organizations, as such. Considering the importance of this subject, however, it is surprising how comparatively little has been published on it. CIOMS is undoubtedly the best single source of information. Its published literature has been very helpful.

But to my way of thinking, medicine will benefit if it learns and publishes more about its own international groups. I am referring not simply to how they function, how they are financed, how their congresses, conferences, seminars, symposia are held, but, as a most important element, how they can improve themselves in all of these and other respects. This is a problem, of course, for the medical world itself. These professional organizations are, by their nature, free, private, and independent. They must remain so. They should continue to represent the highest ideals in their particular disciplines, free of interference from governments.

We who believe in the system of private medicine adhere strongly to these convictions.

At the same time, in their contracts with us, private medical experts pointed out that they welcome the layman's interest in strengthening their organizations. They kindly and warmly praise the subcommittee's interest in focusing attention on current problems.

With the possibility of the U.S. Congress appropriating $600 million for the battle against disease, it is understandable why this subcommittee seeks to inform itself about this particular type of problem.

LIMITED GROUP OF ORGANIZATIONS REFERRED TO HEREIN

This particular section will not, of course, attempt to cover all of the many organizations with whom we have been in contact. That would be impossible within such limited space. This section concentrates on

a few significant international groups. Most of them consist entirely of physicians, as such; a few have members other than physicians and may not therefore be regarded as "professional" in the fullest technical sense of the term.

We do not in any way attempt to depict the letters which follow as being fully representative.

Often, key officers, we found, were not available for response due to heavy professional obligations.

A more complete list of groups would require fullest representation from such organizations (unfortunately not represented herein) as: International College of Surgeons, Medical Women's International Association, International Society of Internal Medicine, and many others.

Very often, in our correspondence with international medical organizations we received replies of a somewhat more limited nature than might be included herein. Because of the obligation of contacting so many varied groups, it was not possible to go back to particular organizations in order to obtain a more complete official message which might be included.

By and large, it will be seen that many of the organizations which we have included are those international organizations comprised of national specialty groups or of individually qualified specialists.

There are some organizations, e.g., the World Federation for Mental Health, whose officers we have contacted on a dozen or more occasions—in personal conference, by letter and telephone. WFMH's able Director, Dr. J. R. Rees, has supplied to us invaluable guidance which is referred to in many connections in our final report. Dr. Rees has had such broad experience throughout the world, and, in particular, with the World Health Organization and other intergovernmental organizations, that we have been able to draw repeatedly upon his observations on problems of cross-cultural communications, whether psychiatry or any other discipline was involved.

WRITEUPS OF INTERNATIONAL UNION AGAINST CANCER AND WORLD FEDERATION OF NEUROLOGY

In approaching the professional groups, the subcommittee used a uniform-type inquiry. To some, however, we sent special letters inquiring as to their particular fields. For example, we have explored in detail the very important functioning of two international organizations—the International Union Against Cancer (UICC) and the World Federation of Neurology (WFN)—see pages 804 ff. and 848 ff., respectively.

In contacting each of the following worldwide organizations, the subcommittee wrote to a key officer—usually termed executive secretary, executive director, or secretary-general. We also wrote to the officers of many international medical congresses.

VARIED TOPICS REVIEWED

The subjects covered within the replies touch upon a broad gamut of medical interest. They refer not simply to medical research, but to medical education, training, and other important phases.

Very often two or more officers, located in two or more countries, responded—perhaps the president in addition to the secretary-general. When the second response contained helpful additional insight, we have reprinted it in this section. It is our hope that by reprinting this correspondence, medical experts may gain additional understanding as to the common problems facing these organizations and common suggestions which are being considered for improvement.

The letters are arranged by alphabetic order according to the key word in the name of the organization.

INTERNATIONAL ACADEMY OF AERONAUTICAL MEDICINE,
Bruxelles, August 26th, 1959.

DEAR SENATOR: On my return to the office after a rather long business trip, I found the letter you sent me a month ago, for which I thank you sincerely.

Coming from you, this letter was a source of pleasure and great comfort, for we all know of your remarkable efforts to try and improve living conditions, as well as medical and social research, the world over.

It is with particular interest that I read the two reports you submitted to the United States Senate on scientific medical research in various countries.

As you know, I have been appointed secretary general to the International Academy of Aeronautical Medicine; we wish to make a really scientific organisation of this international academy, of which the scientific and humanitarian aims must be independent of all political ideology.

We believe that, more especially in the medical field, collaboration between all countries can bring about improvement of knowledge and constant progress. We also believe that aviation medicine is one of the basic elements towards greater understanding between nations.

I am sending you enclosed herewith the articles of our association.

* * * * * * *

With renewed thanks, I am
Yours very truly,

ANDRE ALLARD, M.D., *Secretary General.*

INTERNATIONAL BUREAU AGAINST ALCOHOLISM,
Lausanne, Suisse, September 1, 1959.

DEAR SENATOR HUMPHREY: Further to my letter of July 14, 1959, in reply to yours of July 9, I have pleasure in enclosing a descriptive statement of our international office and comments on specific needs. The documentation is being sent under separate cover.

Any help or advice you can offer respecting the development of our activities will be greatly appreciated. Thank you for giving us this opportunity of reporting on our organization.

Yours sincerely,

ARCHER TONGUE, *Executive Secretary.*

INTERNATIONAL BUREAU AGAINST ALCOHOLISM

Lausanne, Switzerland

The International Bureau Against Alcoholism, the secretariat of the International Union Against Alcoholism, existed from 1907 onwards (the International Union Against Alcoholism being established in 1934). The original and continuing purpose of the International Bureau Against Alcoholism since its foundation in 1907 has been to develop international cooperation among those concerned in preventing and combating alcoholism. For this reason, the office at

Lausanne has developed as an international center for information and documentation on the alcohol problem from many standpoints: education, legislation, economics, treatment of alcoholics, traffic safety, etc.

The aims of the bureau are:

1. to develop international collaboration in the fight against alcoholism,
2. to collect and disseminate information relating to the problem of alcoholism,
3. to promote scientific research into the alcohol problem,
4. to maintain regular relations with national and international organizations whose activities are directed to human welfare,
5. to popularize the use of nonalcoholic beverages, especially of fruit juices,
6. to maintain a secretariat (the International Bureau Against Alcoholism) which will serve as a connecting link between the associations combating alcoholism and kindred bodies.

Each year we organize a European Institute of Scientific Studies for the Prevention of Alcoholism; four of these institutes have taken place in Geneva and this year, in connection with the Ministry of Social Affairs of the Austrian Republic, the fifth institute was held in Vienna. The membership of these institutes is composed of doctors, government officials, teachers, clergymen, social workers, and several government departments send lecturers and students to the institute. This year, for instance, the French Ministry of Health sent a delegation of 15.

We also organize the International Congress on Alcoholism which takes place every 4 years—the last, the 25th, being held at Istanbul in 1956. Three hundred delegates from 40 countries took part.

The 26th International Congress Against Alcoholism will be held from July 31 to August 5, 1960 in Stockholm, under the patronage of his Majesty King Gustaf VI Adolf. A Swedish organization committee under the presidency of Gov. Ruben Wagnsson is working on the detailed preparation of the congress. In cooperation with this committee, Professor Leonard Goldberg and other leading Swedish experts on alcohol and alcoholism are advising on the elaboration of the program which will present the latest phases of all aspects of the question. Great interest has already been shown in this event in all parts of the world and a large international audience is expected.

LIBRARY

We possess an international library on alcoholism which is perhaps unique: we try to obtain all publications on alcoholism in all languages. Our lending service is used widely by those interested in the subject of alcoholism; we have nearly all the important works on this subject since the beginning of this century and have been able to furnish copies desired to foreign libraries such as that of the Yale School of Alcohol Studies.

DOCUMENTATION AND PUBLICATIONS

Information material has been translated and supplied to organizations and individuals in many countries on a variety of subjects including alcoholism and road safety, alcoholism in the armed forces, protection of children, and detailed reports on the situation in particular areas.

The 30 lectures given at the summer institute, and most of which were available in three languages, have provided a useful source of documentation on all current aspects of the alcohol question.

Recent publications have included "The Etiology of Alcoholism" by Professor Ødegård of Norway, "Alcohol and Mental Disorder" by Professor Strömgren of Denmark, and "Public and Private Measures in Norway for the Prevention of Alcoholism" by M. Rolf Knudsen of Norway.

STATISTICS

Statistics on alcohol production and consumption have been collected from statistics offices throughout the world. Mr. Erkki Järvinen of Helsinki has already issued one report on this subject and is continuing his work of assembling this statistical material in comparable form.

SPECIAL COMMISSIONS

Care of Alcoholics.—The main activity of this committee which is presided over by Mr. Daniel Wiklund of Stockholm has been the collection of information from different countries regarding the procedure connected with the treatment of alcoholics. Our office has been asked to assemble information regarding the procedure of notification of alcoholics and drunken persons by the police authorities to the appropriate health department or organization dealing with alcoholism in different countries.

We have asked, for instance, what arrangement exists for the notification of health authorities in the case of first drunkenness offenses, repeated drunkenness offenses, and alcoholism, and whether the police are obliged to inform medical authorities in all cases or whether they refer selected cases only, and if so, what is the basis of selection.

The procedure varies greatly throughout the world and interest in this inquiry has been shown in several countries. The information is now being collated in a general report.

Alcoholism in Industry.—This international commission under the presidency of Mr. André Bertrand of Paris has as its function the study of problems concerning the effects of alcoholism in work places and on safety at work. Each country desiring to participate in this commission has been invited to appoint two members, one a representative of industry and as additional member an industrial doctor.

The essential aim of this commission is to make available to all its members the benefits of experience in this field as regards information to personnel in factories of the dangers of alcohol (methods of information); role of the employees and management; leisure time of workers; healthy drinks available in work places (canteens); rules of the factory for combating alcoholism; discovering alcoholics; safety visits; treatment; etc. The first international meeting of this committee will be held in Paris in June 1960.

INTERNATIONAL FILM LIBRARY

The international film sessions of our Geneva institute have always aroused much interest and this year, the French Health Ministry and the Institute of Health Education in Moscow and the Central Temperance Organization in Helsinki presented their latest films on alcoholism. Following these sessions, the international bureau was asked to set up an international film library to include films from different countries. First steps have been taken in this regard and we are very grateful to the above-mentioned countries which have made available these films which represent the first acquisitions of our international film library.

Our organization is on the register of nongovernmental bodies associated with the United Nations Economic and Social Council as well as on the register of nongovernmental organizations with which UNESCO maintains informal relations. We also maintain contact with the WHO, the International Labor Organization, and other agencies of the United Nations concerned with the question of alcoholism.

We would like to develop the scientific aspects of our work by organizing international seminars of experts on different phases of the subject, by undertaking more research projects demanding the engagement of extra qualified personnel part time or full time. As we do not have, in general, an individual membership and are dependent on organizations in different countries for support, our financial resources are limited and we are not able to develop our activities as we feel the situation demands. For this reason, we should welcome the possibility of finding additional sources of financial assistance for our work.

ARCHER TONGUE, *31 VIII 1959.*

DOCUMENTATION

1. Constitution
2. Annual report with statement of account, 1958
3. Program of Annual Summer Institute of Scientific Studies for the Prevention of Alcoholism, 1957, 1958, 1959
4. Bulletin de Presse, autumn 1958, spring 1959
5. Additions to Library. Nos. 24, 25, 26, 27
6. Barjot: Aspects sociologiques du phénomène de l'alcoolisme et leurs conséquences dans l'élaboration d'une politique antialcoolique

7. Bensoussan: Quelques caractères particuliers de familles des alcooliques et leurs conséquences thérapeutiques
8. Ødegård: The Etiology of Alcoholism
9. 25th International Congress against Alcoholism, Istanbul, 1956 (English text)
10. Rolf Knudsen: Public and Private Measures in Norway for the Prevention of Alcoholism
11. Archer Tongue: Alcohol Production and Consumption in Great Britain and Northern Ireland with notes on legislation and taxation
12. Specimen lectures from our summer institute, 1958 and 1959

INTERNATIONAL BUREAU AGAINST ALCOHOLISM,
Lausanne, Suisse, September 21, 1959.

DEAR SENATOR HUMPHREY: * * *.

In accordance with the request in your letter I enclose information regarding the extent of American participation in our organization and information available on the significance of alcoholism in various countries. On this information I would like to make the following comments.

Highway Accidents.—The experts in this field are agreed that the official road-accident statistics of different countries do not form adequate material for comparison due to different methods of statistics compilation, differing police methods, etc.

I believe that the best international summary of the situation is to be found in the book "Blutalkohol" by Professor Elbel and Professor Schleyer (Stuttgart, 1956) and I have translated the relevant section which is enclosed with this letter.[8] Since the publication of this book certain pertinent researches have been carried out by Vamoši in Czechoslovakia and I enclose a separate summary of his conclusions.

Work Absenteeism.—I have not seen reliable international statistics on this subject. There are from time to time press reports which give figures but I believe these should be taken with caution in the absence of reliable enquiries. I attach a summary of a recent American study carefully carried out on this subject in one industry.

In view of the interest shown in this question in numerous countries by large industrial concerns, it is to be assumed that alcoholism is of considerable significance as regards work absenteeism, reduced work capacity when at work, industrial accidents, etc. This is to be noted in particular in the United States, France and South Africa. In France there is now a standing conference of representatives of various large industries (Conférence Inter-Entreprises Francaise sur la Sécurité du Travail et l'Alcoolisme), and in South Africa a unit concerned with alcoholism in industry is called the "Conservation of Man-Power Unit" (explanatory leaflet attached).

I should also mention the programs to combat alcoholism in the Soviet Union and other Communist countries which are particularly concerned with the influence of alcoholism on productivity.

In this connection we have set up an International Commission on Alcoholism in Industry which will hold its first session in Paris next June. A provisional program of this meeting is enclosed.

Premature Deaths, etc.—Here again the official statistics do not give an adequate picture. Apart from differing systems of compilation, alcoholism is often not given in the death certificate, but another condition of which it may be an important cause; in some countries also the word alcoholism is often avoided on the certificate to avoid distressing the family of the deceased. Enclosed are the World Health Organization latest statistics on mortality from alcoholism and cirrhosis of the liver together with some observations. As France is specifically mentioned as a country where an increase is being registered in mortality from alcoholism, I enclose some diagrams illustrating the situation.

As regards the incidence of alcoholism in a country, this is also difficult to estimate accurately. The generally recognized method is by the Jellinek Formula but this is not applicable to all countries. I enclose an estimate for certain countries made with this formula and a description of the formula.

I hope this information and enclosures will be of service to you.[3] I shall be pleased to provide further information on any particular country or on any aspect of the question as you may require it.

With all good wishes, I am

Yours sincerely,

ARCHER TONGUE, *Executive Secretary.*

AMERICAN PARTICIPATION IN ACTIVITIES OF THE INTERNATIONAL BUREAU AGAINST ALCOHOLISM

As regards the exchange of information, provision of literature, and participation in congresses and seminars we have been greatly helped over a long period by many American groups and individuals.

In the sphere of financial support we have received aid which may be divided into three categories:

a. Grants from private foundations from time to time for specific research or enquiry varying from $200 to $1000 in one year.

b. A regular grant of $1000 per year during the last five years from an independent organisation interested in education on alcoholism, earmarked for our European Institute of Scientific Studies for the Prevention of Alcoholism.

c. Regular annual grants from individuals or organisations, the total varying between $600 and $1000 per annum.

MORTALITY FROM ALCOHOLISM AND CIRRHOSIS OF LIVER

The mortality from cirrhosis of the liver is increasing in the majority of countries for which statistical details are published in the "Epidemiological and Vital Statistics Report" of the World Health Organisation (1958, Vol. II, No. 4).

Cirrhosis, an illness causing the progressive destruction of the liver cells is most often caused by the regular or excessive ingestion of alcoholic beverages. According to the report of WHO, cirrhosis of the liver is responsible for 70 to 80 percent of all deaths attributable to alcoholism. Alcoholism itself (this category includes the alcoholic phychosis, acute alcoholism and chronic alcoholism) as a cause of death remains stationary; it has even a tendency to diminish, in the United States for example (1.7 per 100,000 in 1950–52 against 1.3 in 1955). In France, on the other hand, an increase is to be noted (6.2 per 100,000 in 1950–52 as against 10.6 in 1955).

The mortality due to these two causes of death is higher among men than among women (3 to 4 times in the case of alcoholism, nearly twice as regards cirrhosis). It affects elderly people principally. The mortality due to alcoholism attains its maximum between 40 and 69 years to decrease in the older age groups, whilst mortality from cirrhosis of the liver increases regularly with age and continues at a high rate from 65–70 years.

Today, in numerous countries, alcoholism is considered as a public health problem of first importance. It is unfortunately difficult to measure exactly the extent of this problem by means of statistics. In fact, figures on the incidence of alcoholism, that is to say the number of cases, are not available. The figures of deaths attributed to alcoholism and to cirrhosis of the liver are far from adequately indicating the real extent of the problem, for alcoholism can be at the root of numerous pathological conditions which are sometimes the only indication in the statistics e.g. accidents, suicides, homicides, constitutional diseases, etc.

In addition, the information given must be considered as an indication only, not being adequate for establishing comparisons between countries, but showing tendencies which have been manifest in certain countries during recent years.

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[3] Because of limited space the subcommittee includes within this volume only a few of the helpful enclosures which have been received with this letter.

MORTALITY ATTRIBUTED TO: A. ALCOHOLISM, C. CIRRHOSIS OF THE LIVER SINCE 1950

[Rate per 100,000 persons]

Countries	Code	Average rate				
		1950–52	1953	1954	1955	1956
Africa:						
South Africa	A	0.9	1.2			
European population	C	7.6	7.0	6.2		
America:						
Canada, 1950–55	A	.8	1.0	.9	0.7	0.8
Without Yukon and Northwest Territories	C	4.5	4.9	4.9	4.9	5.2
United States	A	1.7	1.6	1.4	1.3	
All races	C	9.8	10.4	10.1	10.2	
Whites	A	1.5	1.4	1.2	1.2	
	C	10.1	10.7	10.4	10.5	
Nonwhites	A	2.8	3.1	2.9	2.8	
	C	6.9	7.2	7.1	7.5	
Asia:						
Israel	A					
Jewish population	C	4.0	3.5	3.7	3.3	3.6
Japan	A	.2	.2	.2	.3	
	C	7.0	7.8	8.4	8.6	9.2
Europe:						
Germany, Federal Republic	A	.3	.3	.3	.3	
	C	8.0	10.7	11.6	12.4	
Austria	A	1.5	1.1	1.3		
	C	9.9	13.2	13.7	15.6	
Belgium	A	.7	1.4	1.7	1.5	
	C	5.9	6.1	7.5	8.2	
Denmark	A	.4	.2	.2		
	C	5.9	5.8	6.9	6.2	6.4
Spain	A	.8	1.0			
	C	10.1	10.9			
Finland	A	.3	.3	.2		
	C	2.4	2.4	3.2	3.3	3.0
France	A	6.2	9.1	9.6	10.6	
	C	19.7	27.8	28.1	30.3	31.9
Hungary	A					
	C				6.6	8.3
Ireland	A	.1	.1			
	C	2.1	1.6	1.7	2.3	2.4
Italy	A	1.8	1.6	1.3		
	C	12.9	13.8	13.3	13.9	
Norway	A	.3	.4	.3		
	C	2.9	3.0	4.0	3.8	
Netherlands	A	.5	.4	.5	.7	
	C	2.8	3.2	3.3	3.3	3.5
Portugal	A	2.8				
	C	19.6	17.7	19.2	24.2	28.3
United Kingdom	A	.1	.1	.1	.1	.1
England and Wales	C	2.5	2.6	2.6	2.6	2.6
Scotland	A	.3	.4	.4	.4	.4
	C	3.2	3.3	3.6	3.3	4.1
Northern Ireland	A	.2		.1		
	C	2.4	1.8	2.6	2.7	2.6
Sweden	A	.3	.4			
	C	3.3	3.2	4.2	4.4	
Switzerland	A	5.4	4.2			
	C	11.6	12.5	14.1	13.1	
Oceania:						
Australia	A	2.7	2.1	2.0	2.4	
	C	4.9	4.2	4.4	4.8	5.0
New Zealand	A	.9	.8	1.4		
Without the Maoris	C	3.2	2.4	2.6	3.5	

From a press communique of WHO, June 26, 1958.

INCIDENCE OF ALCOHOLISM

Percent of "alcoholics" in adult population (for the year 1950)	Country	Predominant source of alcohol
Up to 0.5	Argentina	Wine.
	Spain	Do.
	Brazil	Distilled spirits.
	Belgium	Beer.
0.6 to 0.9	Italy	Wine.
	Netherlands	Distilled spirits and beer.
	Uruguay	Wine and distilled spirits.
1 to 1.4	England and Wales	Beer.
	Northern Ireland	Do.
	Ireland	Do.
	Finland	Distilled spirits.
1.5 to 1.9	Australia	Beer.
	Norway	Distilled spirits.
	Scotland	Distilled spirits and beer.
	Denmark	Beer.
	Canada	Beer and distilled spirits.
2 to 2.9	Chile	Wine and distilled spirits.
	Switzerland	Do.
	Sweden	Distilled spirits.
3.9	United States	Beer and distilled spirits.
5.2	France	Wine.

THE JELLINEK FORMULA

The Jellinek formula employs three factors to obtain an estimate of the prevalence of alcoholism from the reported liver cirrhosis mortality in a given population. These are: The proportion of deaths from liver cirrhosis estimated to be attributable to alcoholism; the proportion of all living alcoholics with complications who die from liver cirrhosis; and the ratio of all alcoholics to alcoholics with complications in the population for which an estimate is desired.

The first two factors are employed to obtain an estimate of the number of alcoholics with complications, and the third to obtain a comprehensive estimate of prevalence.

The expression "alcoholics with complications" is defined operationally to mean "those individuals who, as a result of prolonged excessive drinking, suffer from one or more of the complicating diseases of alcoholism."

The formula is expressed algebraically as follows:

$$A = \frac{(P\,D)\,R}{K}$$

where A=the total number of alcoholics alive in a given year
D=the number of reported deaths from liver cirrhosis in that year
P=the percentage of such deaths attributable to alcoholism
K=the percentage of all alcoholics with complications who die of liver cirrhosis
R=the ratio of all alcoholics with complications.

INTERNATIONAL ASSOCIATION OF ALLERGOLOGY,
Paris, July 20, 1959.

DEAR SENATOR HUMPHREY: I am very honoured and grateful too for your letter of July 9 in which you invite me to cooperate with your committee on the matter of international biomedical research.

I wish to congratulate you for this excellent idea and I accept with enthusiasm to cooperate with your organization and provide you with any possible and available information.

The International Association of Allergology

The International Association of Allergology, of which I am the president for the present term, has been founded in 1951 in Switzerland, on the initiative of a few outstanding personalities in the domain of allergy and immunology.

The object of our association is to advance the knowledge of allergy and other related fields and to foster the dissemination of this knowledge through meetings, congresses, articles, books, etc., and also to promote international cooperation and exchange of informations in this domain for the benefit of humankind. The aims of the association are therefore scientific, clinical and educational.

The association is composed of national member societies and of some rare individual members, who have made significant contribution to field of hypersensitivity.

The association includes presently 47 societies, totalizing about 5,500 members. It is one of the largest international societies.

The association is governed by an executive committee composed of a president, president-elect, vice presidents, secretary, treasurer, and five members at large. The officers are elected for 3 years by the house of delegates, which is the governing body and whose members are designated by the national member societies.

The association holds regular scientific and educational meetings, called congresses, at intervals of 3 years. The reports, the original communications, and other scientific informations presented at the congresses are published in a volume which can be considered as being the best up to day document in this field.

The Importance of Allergy and Hypersensitivity

Allergy affects about 30 to 50 per 100 of the white population and at least 15 per 100 are suffering of more or less chronic and severe allergic diseases. This means that millions and millions of human beings, otherwise normally made, are in fact invalid or infirm persons.

By their prevalence and their importance, and also by the financial charges imposed on the communities, the allergic diseases come in the 3rd position after the other main social flails: cancer and cardiovascular diseases. The main difference consists in the fact that while cancer and cardiovascular conditions affect the individual on the decline of his active life, the allergic diseases usually start in the infancy and prosecute him during his whole life. Furthermore the statistics agree unanimously that the allergic diseases are increasing in frequency from generation to generation; this means that it will soon become for the humanity the No. 1 problem in pathology.

Let me take one single example, drug allergy. Drug allergy frequency is increasing considerably from year to year. Drug allergy may take the form of a chronic condition: blood dyscrasia, collagen diseases, skin diseases, or the form of acute hypersensitivity, being responsible, every year, for thousands of fatalities. Drug allergy is of course only one aspect of this vast problem.

The allergic diseases are also an important social problem. I shall mention here only the industrial and professional allergy which raises every day urgent questions of detection, prophylaxis, compensation, disability on a nation wide scale. Finally, the computation of the financial charges, by loss of working days and care, reaches fabulous sums.

There are grossly traced the main problems with which our association is faced; they are speaking for themselves.

Comments on the specific needs.—Progresses can be achieved by (a) promoting fundamental and clinical investigations; (b) facilitating diffusion of the scientific and clinical informations.

1. The allergic affections are biochemical diseases conditioned by immunological processes. Progress in clinical allergy depends essentially on advances in immunology, biochemistry, genetics, climatology, aerobiology, etc. On the other hand, pharmacology has provided recently allergy with powerful specific although symptomatic treatment: the antihistaminic drugs (which are—shall I be allowed mentioning it—the results of my personal achievements).

2. The complexity of the causes of the allergic or hypersensitive condition, as evidenced by above enumerated points, sets off the importance of the international meetings, congresses, symposia and of all the other means which facilitate diffusion and exchange of informations.

Our congresses gather together scientists belonging to a variety of different disciplines: biochemists, immunologists, pharmacologists, geneticians, pathologists, psychiatrists, hygienists and also clinicians of various specialities.

It is obvious that the level and the interest of such meetings depend essentially on the quality of the reporters and speakers. As the congresses are held each time on a different country or continent, it is essential to bring there, some-

times from remote places, the best specialists. Most of them are full time research workers or professors, who must have their travel expenses paid. This involves a considerable financial effort which is not always within our possibilities. Let me take a factual example: the next congress will be held in New York. If a great financial effort is not made to bring over excellent European and other extra-American scientists, the congress will be actually an American meeting which deprives it of all its international interest.

The publication and the diffusion of the informations, however, important and essential they are, raise also a great deal of difficulties. Here again, I wish to bring up a specific example: as chairman of the organizing committee of the 3rd international congress held in Paris, I took the decision to have the proceedings published on the day of the opening of the congress. Congress proceedings have only a ephemeral interest. Editors do not accept to publish proceedings unless they receive a guarantee for a minimum sale. As a result of such an arrangement, I am now personally indebted to the editor for an amount of about 5,000 dollars, which I shall have to reimburse if the sale is below the guaranteed number, and this is very likely to happen.

How can your committee help us?—By financing basic and clinical research in this important domain. There are outside the United States many excellent research teams which are handicapped by lack of financial facilities. I am sorry to tell you that the grants allotted by the National Institutes of Health for foreign countries are very few in number. Besides, the application forms are so complicated, confusing, and often really hermetic that almost all applications are rejected, due to some formal errors. You easily imagine how disappointing this is for the applicant and how prejudiciable these means of behaviour are to the American prestige. In my opinion, the creation of an International Institute of Allergy and Hypersensitivity would be the highest objective. But I am afraid that this dream will never be achieved.

More concretely your organisation can greatly contribute to raise the interest and the level of our congresses by attributing reasonable sums with which grants could be offered to the guest speakers chosen by our programme committee and also to young research workers and full-time clinicians who wish to attend the meetings.

Finally, financial support will be most helpful for the edition and diffusion of the main scientific and educational informations.

The final word is to tell you that in this period of history which may decide the future of the humanity and where East and West are engaged in such a bitter struggle, the balance may turn in favour of those who will have the scientists with them. Medical research is an important part of science. Many of us hope that American traditional generosity will prevail also today.

With my kindest and respectful regards,

Yours very sincerely,

BERNARD N. HALPERN,

President of the International Association of Allergology; Director of Medical Research, French National Research Council.

INTERNATIONAL UNION AGAINST CANCER

Senator HUMPHREY: This volume contains two principal groups of material bearing upon the disease of malignant neoplasms.

Information on the organized effort against cancer is set forth as viewed by the leaders of that effort. And in section 4 are set forth the views of individual cancerologists, principally geographic pathologists, writing as technicians in their chosen specialty.

With respect to the information in this particular section, it consists of two separate materials:

(a) a reply by Harold Dorn, Ph.D., General Secretary of the International Union Against Cancer (UICC, as it will be referred to hereinafter) to the subcommittee's initial inquiry. This was one of the first such replies received by the subcommittee. It proved invaluable in our early stages of review. To this reply were appended many

helpful documents (which are not reproduced in view of the problem of space).

(b) a staff analysis on the UICC as a form of case history of an international nongovernmental organization—its difficulties, limitations, opportunities, and potentialities.

This memorandum is presented because there is increasing interest in U.S. Government assistance to research and fellowship programs of international professional organizations. For many months, I have corresponded with public and private authorities on the needs of world professional groups. It was with great pleasure that I learned of the pioneering grants to the UICC by the Eleanor Roosevelt Cancer Foundation for an international fellowship program. This is, in my judgment, a great beginning, but much more might be done by public and private groups. The memorandum explores some of these further needs and opportunities.

FACTS MADE AVAILABLE BY NIH SCIENTISTS

It should be noted that this memorandum reflects the considered views presented to the subcommittee by numerous distinguished Americans.

The factual information, as such, was made available at our invitation principally by experts of the National Cancer Institute. They responded, however, in their capacity not as U.S. Government scientists, but rather as individual members and observers of the UICC.

Each of these experts, in discussions with us, has been most attentive in demarcating between (*a*) his prerogatives for expression of private scientific judgment and (*b*) official responsibilities in his public position as an employee of the U.S. Government. This is a necessary, proper, and carefully observed distinction.

NIH SCIENTISTS WORK IN INTERNATIONAL ORGANIZATIONS

Part of the strength of the international medical organizations derives from the great reservoir of the individual talents of scientists in the U.S. Government. Increasing contributions to international groups—notably on the part of National Institutes of Health scientists—constitute, in my view, one of the most welcome developments in recent years. It is welcome from the standpoint of science, from the standpoint of the United States, and from the standpoint of the healing of man.

To scientists such as Dr. Harold Dorn, Dr. Murray Shear, Dr. J. R. Heller (now president of the Sloan Kettering-Memorial Center) go our highest praise and heartfelt thanks. The world will be a healthier place, thanks to their dedication, that of their associates in the United States and of their colleagues abroad in the UICC.

I personally feel that a strong case can be made for expanding U.S. Government financial support to the UICC. I am cognizant, however, of the many problems related thereto which are referred to at my request by the project director hereinafter.

This staff analysis makes numerous observations and poses, in effect, a number of questions. It does not and could not attempt to offer definitive answers.

Dr. Dorn's letter now follows:

INTERNATIONAL UNION AGAINST CANCER,
Paris, December 23, 1958.

DEAR SENATOR HUMPHREY: The International Union Against Cancer is very much interested in the work of your subcommittee, especially as it touches upon the problems of worldwide medical research. There is a great need at present for funds that can be used to support medical research on an international basis. I continually receive letters from research investigators throughout the world asking if I can tell them where they can obtain funds to support their research. They have ideas, but local funds to carry out these ideas are unavailable.

Unfortunately, the answer to such requests must be that money to support medical research outside the boundaries of the country where the money is raised is very limited. But scientific investigators with creative imagination are not the monopoly of any country. If scientific talent, now unutilized because of lack of funds to support research, is to be put to work for the ultimate welfare of mankind everywhere, money must be made available for the international support of medical research.

I am enclosing a memorandum recently submitted by the International Union Against Cancer to the World Health Organization outlining some areas of cancer research for which international support is urgently needed. The suggestions in this memorandum are not exhaustive; they represent only a beginning. But even so they reflect a worldwide interest in cancer research, an interest that is certain to increase if adequate financial support becomes available.

If I can be of any further assistance to your subcommittee, please feel free to call upon me.

Sincerely yours,

HAROLD F. DORN, *General Secretary.*

STAFF MEMORANDUM ON UICC

Memorandum from Julius N. Cahn, Project Director, Subcommittee on Reorganization and International Organizations, Committee on Government Operations.

Re: The International Union Against Cancer.

Pursuant to the direction of the chairman of the subcommittee, an initial review was made of the problems, achievements, and opportunities of international medical organizations.

For this purpose, the International Union Against Cancer was selected by the chairman as a form of case history.

Reasons for its selection are severalfold:

(1) The universality and seriousness of the disease;

(2) The long history of this organization—the UICC—in combating the disease;

(3) The high regard expressed by men of science for the organization as an effective instrument;

(4) The particular recognition long since given to the Union by the World Health Organization;

(5) The democratic, grassroots nature of the organization, broadly representative of the field and of the nations;

(6) The availability to the subcommittee of numerous experts from the organization who willingly gave of their time and counsel;

(7) The relative imminence of a decision by Federal agencies on an application for future financial support of research counselling by the Union.

By these and other criteria, the Union satisfied significant criteria, meriting subcommittee review.

PRIOR SUBCOMMITTEE STUDIES

The subject of international cooperation against cancer, in particular, has received as much or more attention from this subcommittee as virtually any other disease, with the possible exception of cardiovascular problems.

In the first committee print in our series, "International Medical Research," landmarks and great researchers in the historic battle against cancer were cited.

The third committee print entitled "The Status of World Health" contained a chart devoted to the differential incidence of malignant neoplasms in various countries of the world.

The fourth committee print entitled "The United States and the World Health Organization—Teamwork for Mankind's Well-Being" referred in part to WHO's role in cancer research.

The fifth committee print entitled "Cancer—A Worldwide Menace" was devoted exclusively to the international cancer problem.

The sixth committee print entitled "Patterns of Incidence of Certain Diseases Throughout the World" recapitulated some of the opportunities for research through epidemiological studies.

(It should be noted that both committee prints 5 and 6 were essentially prepared by the National Cancer Institute at the request of the subcommittee. Michael B. Shimkin, M.D., was principally responsible for collation of the cancer data.)

Even prior to the publication of the latter prints, the chairman of the subcommittee and the undersigned met with a number of cancer specialists in Europe, such as Dr. Leiv Kreyberg in Oslo and Professor Nicholas Blochin in Moscow. On December 1, 1958, Senator Humphrey met with Premier Nikita Khrushchev of the Soviet Union and discussed increased United States-Soviet as well as multilateral cooperation in cancer research.

The subcommittee's correspondence with cancer experts throughout the world has been voluminous, as noted elsewhere in this report.

It has been in touch for example, with A. C. Tuyns, M.D., cancer specialist of WHO in Geneva, Dr. Harold Diehl of the American Cancer Society, leaders of the UICC's Commission on Cancer Control (in addition to its Commission on Cancer Research whose work is highlighted in this memorandum) and with cancer coordinators in hospitals throughout the United States. The subcommittee staff has noted the important contributions of such distinguished international cancer fighters as Prof. William U. Gardner, Dr. George T. Pack, and many others too numerous to mention, in addition to the leaders referred to in the pages which follow.

QUESTION ON LISTING OF CURRENT RESEARCH PROJECTS

It has raised with WHO a question which may be of deep interest to it, as well as to organizations such as the Union, namely, "Would it be advisable to consider establishment of a central clearinghouse, perhaps somewhere in Europe, for the dissemination, on request, of brief summaries on any one or more of thousands of current research projects in cancer being conducted throughout the world?"

Comparable information on current U.S.-supported cancer and other research projects is maintained by the Science Information Exchange. It contains indexed information on 30,000 U.S.-supported current and 20,000 terminated research projects in all biomedical disciplines, including over 1,848 extra-mural cancer projects. Thus, for example, an investigator can easily, quickly, and without cost determine whether he may unknowingly be paralleling a current research project elsewhere.

Senator Humphrey has stated that he feels specialized international medical organizations might well wish to explore this problem of future availability of information on current, i.e. prepublication, research.

With this background of prior subcommittee efforts, we may turn to the UICC itself.

The International Union Against Cancer

Part A

HISTORY OF THE UICC

The opening years of the 20th century ushered in the experimental era in cancer research. Systematic study was begun of tumors in many species of animals. The advances of previous decades in gross and microscopic pathology, in aseptic surgery, and in anesthesia, coupled with the newly discovered

tool of diagnostic X-ray, made possible rapid progress in the better understanding and management of cancer in patients.

The value of international cooperation in the attack on the cancer problem was recognized in the early part of this century, for cancer knows no political borders. By this time there was a sufficient number of workers concentrating on the cancer problem in various countries of Europe to make it advisable for them to meet together. They organized the International Association for Cancer Research, and held three international congresses: In Heidelberg (1907), in Paris (1910), and in Brussels (1913). This organization was dissolved about the time World War I began.

After the war, international activity in cancer slowly revived: a conference was held in Strasbourg (1923) on the occasion of the centennial anniversary of the birth of Pasteur; the Secretary (Dr. F. L. Soper) and the President (Dr. Howard C. Taylor) of the American Society for the Control of Cancer organized in 1926 a symposium at Lake Mohonk, N.Y., attended by representatives from eight nations. In 1928, the British Empire cancer campaign organized another international conference, in London, in which 16 nations were represented. It became clear that such international collaboration filled an important need which was not adequately met by ad hoc conferences, and that a permanent organization was required. This suggestion had, in fact, been made at the meeting in America in 1926.

First cancer congress

What is now called the First International Cancer Congress was held in Madrid, Spain, in October of 1933 under the Presidency of Professor Dr. L. Cardenal, Madrid. At this Congress, Dr. Jacques Bandaline (who later became the first General Secretary of the UICC) proposed in the name of the French delegation, including Justin Godart, the French Minister of Health, and with the approval of the President of the Congress, that an International Union Against Cancer be organized to carry forward the campaign against cancer by research, therapy, and control measures. An organizing committee met in Paris in March 1934 and prepared plans for the establishment of such an organization. A general assembly of the International Union Against Cancer was held in Paris in May 1935, and Justin Godart was elected the first President; the by-laws were registered under French law, and Paris was designated as the headquarters.

The Union is frequently referred to, for brevity, as the UICC—the letters of the Latin form of its name, "Unio Internationalis Contra Cancrum."

Second and third cancer congresses

The UICC organized and conducted the Second International Cancer Congress in Brussels, Belgium, in September 1936, and the third in the United States at Atlantic City in September 1939 under the presidency of Dr. Francis Carter Wood. Unfortunately, World War II broke out in Europe just as the Third International Congress opened; its proceedings were disrupted and international cooperation in cancer research was, for the most part, set back for nearly a decade.

Fourth cancer congress

Once the war was over, however, it became feasible to attempt to "pick up the pieces." The initiative came from the United States: The Chairman (Dr. Murray J. Shear of the National Cancer Institute) of the International Cancer Research Congress Committee of the American Association for Cancer Research inquired, in informal discussions and in correspondence with colleagues in this country and in other parts of the world, on their willingness to resume international cooperation under the aegis of the UICC. The response was enthusiastically in the affirmative. Accordingly, the Fourth International Cancer Congress was held in St. Louis in the United States in September 1947 under the presidency of Prof. E. V. Cowdry. Despite disturbed postwar conditions, 25 countries were represented in the program. Although no delegation from the Soviet Union participated in the Fourth Congress, that country has increasingly been represented in subsequent congresses and in the other activities of the Union.

Cancer Research Commission

Among the notable accomplishments of the Fourth Congress was the creation of the International Cancer Research Commission, an outgrowth of the previous Scientific Committee of the Union but with greater autonomy; this reflected the expanding activity in cancer research throughout the world. The first president of the commission was Dr. I. Milan of Mexico. He was succeeded by

Professor V. R. Khanolkar of Bombay, India, under whose leadership the scientific activities were enlarged as illustrated by the organization of a Committee on Geographic Pathology and a Committee on Nomenclature, both of which have since done important work on the worldwide scene.

Fifth and sixth cancer congresses

The Fifth International Cancer Congress was held in Paris, France, in July 1950 under the presidency of Professor A. Lacassagne; the Soviet Union sent three delegates. The Sixth Congress took place in Sao Paulo, Brazil, in July 1954 under the presidency of Professor Antonio Prudente. There were about six participants from the U.S.S.R.; the presentations of their results, in a separate session, attracted an unusualy large audience of the many who wished to be informed of the work on cancer that had been in progress in the Soviet Union.

To meet the greatly changed conditions since the registration of its bylaws in 1935, the constitution of the UICC was entirely revised at the Sixth Congress. Fresh blood was ensured by: The provision, for the first time, of the regular election of the president and limitation of the tenure in this office to a single term; and election of a president-elect who automatically becomes president at the time of the next following International Congress. The previous International Cancer Research Commission was replaced by a Commission on Cancer Research with greatly enlarged functions; formation of new working committees of the commission was authorized for dealing with expanding fields of research such as biochemistry of cancer, carcinogenesis, and chemotherapy. The most recent form of the constitution, as revised at the Seventh International Cancer Congress in London, England, in July 1958, provides that the members of this commission "shall be selected on the basis of their scientific and professional competence and insofar as possible, to represent the various regions of the world."

Seventh International Cancer Congress

Some 2,500 people, from 64 countries, participated in this last congress (1958), as compared with a little more than 1,000 at the preceding congress (1954). In attendance were cancer workers from all over the world. They came from North and South America, the islands of the Pacific, North and South Africa, and Asia. They included participants from countries of Eastern Europe—Bulgaria, Roumania, Yugoslavia, and many delegates from Czechoslovakia, Hungary, and Poland. The U.S.S.R. was represented by a large delegation of 49 cancer workers. Delegations came as well from the Near East (Egypt, Israel, Lebanon, Turkey); and from various parts of Asia (e.g., Burma, India, Indonesia, Iran, Japan, Viet Nam).

1960 biennial meeting in Japan

The next biennial meeting of the Union is scheduled for October 1960 in Japan. The members of the Executive Committee, the chairmen of the commissions and of the pertinent committees, and specialists in three cancer fields will participate in two symposia of the Union (on Geographic Pathology, and on Cancer Control) and in a Chemotherapy Symposium organized by Japanese colleagues. These scientific sessions will be followed by a Business Meeting to deal with the affairs of the Union, including the organization of the Eighth International Cancer Congress, which is to be held in 1962 in Moscow, U.S.S.R.

Plans for eighth congress

In preparation of the plans for the Eighth Congress, the Russian cancer workers invited the UICC to send a small group to Moscow in the spring of 1960 to cooperate with them. At the meeting of the board of the Union in London in January 1960, four UICC officials were selected for this assignment: one each from Holland and Great Britain, and two from the United States. These four men went to Moscow in the latter part of May 1960; they were received in a most cordial manner, and the work on the planning was carried out in a harmonious fashion.

PART B

FUNCTIONS AND ORGANIZATIONAL STRUCTURE

The constitution of the UICC, as revised at the last International Congress (London, July 1958), contains the following:

Article I—*Objectives*

1. To maintain liaison between organizations engaged in the campaign against cancer in its research, control (preventive), and clinical aspects and in particular to assist them:

(*a*) by promoting scientific research in the cause, diagnosis, and treatment of cancer by every means in its power,

(*b*) by encouraging the establishment of diagnosis and treatment centers,

(*c*) by encouraging the organization of undergraduate and postgraduate teaching in the field of cancer,

(*d*) by fostering, without interfering with national activities, a campaign of popular education to inform the general public of the present state of knowledge concerning cancer and of the necessity for early diagnosis,

(*e*) by combating charlatanism,

(*f*) by stimulating studies of the magnitude of the cancer problem in each country.

2. To work out a classification of tumors from both the anatomical and clinical points of view, suitable for international adoption and use, and to lay down uniform criteria for comparative cancer statistics.

3. To provide a permanent international documentation center for all aspects of cancer.

4. To publish an International Bulletin which, without duplicating the work of national publications, shall serve to keep members informed of the activities of individual countries and of the Union itself.

5. To organize International Congresses on the research, control (preventive), and clinical aspects of cancer and to publish the proceedings and communications of such congresses.

6. To act only as a counsellor without interfering with the internal activities of national organizations in carrying out the above activities.

Articles III to V—*Membership*

The members of the Union are "countries" and "organizations" engaged in research, control, or clinical aspects of cancer.

Application for membership is made by an official government agency, or by one or more nongovernmental organizations engaged in cancer work. The annual membership dues of a country may be paid by the government of the country, or by one or more nongovernmental organizations; the several agencies are considered as jointly representing a single membership for their country. Whenever two or more governmental or nongovernmental organizations jointly represent their country, they may form a national committee to act for their country in the affairs of the Union.

Each country may appoint a maximum of three delegates to represent it at meetings of the Council. Whenever possible, one of the delegates shall represent research. Regular payments of dues entitles each member country to three votes in the Council.

Article VII—*Government of the Union*

The government and administration are performed by:

(*a*) The Council

(*b*) The Executive Committee

(*c*) The Board (or Bureau)

The composition and duties of these bodies are set forth in other articles of the constitution. The Executive Committee, responsible for administration of the Union's affairs between International Congresses, is composed of five vice-presidents (from the different geographic areas of the world), the chairmen of the commissions and of the technical committees, and of 15 others elected

from the members of the Council. The Board, which is charged with the day-by-day administration of the Union, consists of:

The President
The Past President
The President-Elect
The General Secretary
The Treasurer

Finances

The by-laws contain a document entitled "Rules Governing the Office of Treasurer." This was drawn up in accordance with the recommendations in a report (May 16, 1958) of a survey, made at the expense of the Union, by a firm of certified public accountants in France—viz, Arthur Anderson & Co., 46 Avenue Victor Hugo, Paris 16. (This firm also has an office in the United States at 777 14th St., NW., Washington, D.C.) Since July 1958 the Union has had a new treasurer—Dr. Prosper Loustalot of Basle, Switzerland—who is following these new rules in a faultless fashion.

The current membership of the Union comprises 51 countries, located in all parts of the world. They were recently classified in five categories of level of annual dues as follows: I, $250; II, $500; III, $1,000; IV, $2,500; V, $5,000.

At the present time, most of the countries are in dues categories I and II.

In order to effectuate a more businesslike approach to the management of income policies and procedures, the UICC authorized (July 1958) the establishment of a Finance Committee and a supporting Advisory Finance Council. These relatively new groups have as their function: to see that the dues are paid promptly, and to aid the treasurer in their collection; to gain concurrence of the member countries in reassignment to a higher level of dues category when warranted; and to arrange for obtaining additional sources of funds in support of approved activities of the Union.

Since the total amount contributed as dues in recent years has amounted to only about $25,000 per annum, it is clear that additional fiscal support is required even to maintain the activities of the UICC at their present level. In the formulation of its policies and procedures, the Finance Committee aims to provide effective opportunities for all countries, in all parts of the world, to pay their fair share of the expenses of operation.

PART C

ACHIEVEMENTS

For a quarter of a century, the Union has been contributing to progress in two humanitarian areas: (1) technical advances in the understanding and control of cancer; and (2) overcoming barriers in international interchange of scientific knowledge by creating good-will and cooperation in a common cause despite differences in color, religious creed, and political ideology.

This international organization developed "from the grassroots" out of the needs felt by the professional students of the cancer problem. Although operated on the proverbial shoestring, the Union has survived worldwide depression and war. It has grown larger and stronger, and has exhibited increasing vigor with the passing years. This permanent organization has accepted the challenge presented by the rapidly changing conditions for cancer research on the worldwide scene, and has modernized its structure to deal with it more actively.

In the earlier years of its existence, the Union succeeded in providing a common meeting ground of two types for cancer workers of all nations. These were, as previously indicated, the International Cancer Congresses and the "ACTA, Unio Internationalis Contra Cancrum."

International Cancer Congresses

First: Madrid, Spain (1933)
Second: Brussels, Belgium (1936)
Third: Atlantic City, U.S.A. (1939)
Fourth: St. Louis, U.S.A. (1947)
Fifth: Paris, France (1950)
Sixth: Sao Paulo, Brazil (1954)
Seventh: London, England (1958)
Eighth: Moscow, USSR (1962)

Official Journal

The official journal (ACTA) is published in Louvain, Belgium, under the editorship of Professor Joseph H. Maisin. It publishes the Proceedings of the International Cancer Congresses and of International Symposia, as well as periodical accounts of the activities of the UICC. It appears about six times a year and is now in its XVth Volume. The subscription price is $25 per year; it has some 400 subscribers. The total income of ACTA from sales and from advertisements is about $10,000 per year.

In more recent years, the Union has organized a number of working committees of the Research Commission to promote better communication and cooperation among specialists in the various important subjects in cancer research. These committees consist of professional investigators in various parts of the world who are actively engaged in research on one or another aspect of cancer. They do their work by correspondence, informal conferences, committee meetings, and by organizing and conducting international symposia.

Committee on Geographic Pathology

For example, the Committee on Geographic Pathology has many accomplishments to its credit. It conducted a Symposium on Lung Cancer in Louvain, Belgium, in July 1952; financial support was provided by CIOMS (Council for International Organizations of Medical Sciences), and the proceedings were published in monograph form under the sponsorship of that organization. This committee, under the leadership of an energetic chairman (Dr. H. L. Stewart of the National Cancer Institute, U.S.A.) has stimulated and encouraged studies of the epidemiology and geographic pathology of cancer in various parts of the world, and organized subcommittees for Africa and for Latin America. It conducted a Symposium on Liver Cancer in 1956 in tropical Africa, which was notable for many reasons. One such reason was that it met, successively, in conferences of about four days, each in three different locations—in Kampala, Uganda (British East Africa), in Leopoldville (Belgian Congo), and in Dakar, Senegal (French West Africa)—giving encouragement and aid to the cancer workers in these remote, widely separated places. The meeting in Kampala was organized with support from the British Colonial Office, the Government of Uganda, the Medical Research Council of the United Kingdom, and the British Empire Cancer Campaign. The meeting in Leopoldville, "under the High Protection of the Belgian Minister for Colonies and the Governor of the Belgian Congo," had its local expenses provided by the University of Lovanium, which is located in Leopoldville. The School of Medicine in Dakar was the host of the sessions held in that city.

This committee next conducted a symposium in Copenhagen, Denmark (July 1958) on the Geographic Pathology of Gastrointestinal Cancer, with support from the Union and the Danish Cancer League. The chairman of this important committee traveled extensively in Africa in the fall of 1959, held conferences with leading cancer investigators in various parts of that huge continent, participated in scientific meetings there and, on behalf of the UICC, provided stimulus and advice in planning expansion of cancer research in Africa.

As noted in our committee print on cancer, there are important leads to be found in the divergencies in cancer incidence, among peoples of primitive cultures. These leads will be lost to science in a few years because of the rapid changes now going on in economic, social, and other environmental changes now in progress in Africa.

In October 1960, at the biennial meeting of the Union in Tokyo, this committee will conduct a symposium on the "Geographic Reviews of Cancers That Are Unusually High or Unusually Low in Japan."

Other Research Committees

The Research Commission of the UICC has, from time to time, organized other working committees, devoted to various fields, viz:

Causative Factors of Cancer—
with subcommittees on
Air Pollution and Tobacco
Food Additives
Ionizing Radiation
Mechanism of Carcinogenesis
Biochemistry of Cancer
Clinical Stage Classification and Applied Statistics
Nomenclature of Tumors
Young Scientists in Cancer Research
Cancer Chemotherapy

Committee on Cancer Chemotherapy

All of these committees have been increasingly active in providing communication, and opportunities for cooperation, among cancer investigators of countries all over the world. Illustrative of their activities is the work of the Committee on Cancer Chemotherapy, devoted to one of the most rapidly growing fields in cancer research. Its organization was authorized at the Sixth Cancer Congress in Brazil in 1954. Under the Chairmanship of Dr. Murray J. Shear (U.S.A.), it has, on an increasing scale, given encouragement, advice, and aid to investigators in all countries by way of correspondence, long-distance telephone, cable, and personal conferences. It organized and conducted the following:

International Symposia on Cancer Chemotherapy
Oslo, Norway (May 1956)
Tokyo, Japan (Oct. 1957)
Cambridge, England (July 1958)

The proceedings have been published in ACTA. The Norwegian Cancer Society was the national host for the meeting in Oslo, and provided support. The one in Tokyo was organized for workers in the Pacific-Asian-African area; the national host was a Special Organization Committee supported with funds raised in Japan. At the symposium in England the Board of Governors of the United Cambridge Hospitals was the host, and provided hospitality.

Regional Cancer Chemotherapy Committee

Inasmuch as vigorous give-and-take discussions are inhibited at widely attended meetings, it has been necessary to limit the number of participants in these symposia. However, so many investigators are now engaged in research on chemotherapy of cancer that it has been necessary to set up regional committees to meet the needs. These regional committees, like the parent Chemotherapy Committee, are organized on the basis of the competence of the individual research workers, with balance among the relevant scientific disciplines, viz., pharmacology, organic chemistry, experimental pathology, surgery, radiation, clinical chemotherapy, etc. Due consideration is given to wide geographic distribution but not to national entities. The members of the parent cancer Chemotherapy Committee serve as chairmen of the regional groups. There are, for example, the Regional Committee for Great Britain and Eire, with the chairman currently in London (Professor Franz Bergel); another is the Regional Committee for Western Europe, with the chairman currently in Paris (Professor Georges Mathé).

The member for Eastern Europe of the parent committee (Professor Leonidas Larionov of Moscow) is chairman of the Regional Cancer Chemotherapy Committee for Eastern Europe. This latter is also an active group which, like the others, has conducted successful meetings. In November 1958 it held a Second Coordination Conference on Cancer Chemotherapy in Moscow, in which a large number of experimentalists and clinicians from seven countries took part (Bulgaria, Czechoslovakia, German Democratic Republic, Poland, Roumania, and Hungary as well as U.S.S.R.). It is interesting that at the Oslo symposium in May 1956, Prof. Larionov spoke in Russian and in German but not in English; by the time of the Tokyo symposium, however, he had acquired sufficient facility in English so that he delivered his lecture in that language. Prof. Larionov was persuaded to serve as moderator at one of the sessions at the symposium in Cambridge in July 1958, and performed capably in English in the conduct of that session.

The Larger Implications of UICC Endeavors

Facilitation of advances in technical aspects of cancer in man is the objective of the UICC. In the course of pursuing this goal, professional men and women from all corners of the globe have been brought into contact and have learned to work together in a common humanitarian venture. This joint enterprise is "above the battle"—its activities are carried out on a level that transcends hostilities and suspicions which arise from differences in race, religion, and nationalistic politics. Personal acquaintance with colleagues from other countries who are doing fine work in cancer leads to development of mutual respect and confidence which, in many cases, ripens into friendship. On this noncontroversial platform, East and West can and do meet.

There is wide recognition by the public in many countries, and by their governments, of the importance of people-to-people contacts, and notable steps are now being taken to promote such mutual acquaintance. This kind of personal intercourse is considered to be a powerful antidote to the fears and hatreds which

grow out of ignorance and foreign strangeness and which, if not checked, may constitute threats to the peace of the world. In their own countries these cancer investigators have circles, both small and large, of people who come within the influence of their knowledge and viewpoints.

But most specifically, on an ever-larger scale as the years go by, the International Union Against Cancer has been profitable to mankind in its progress toward the better control of this dread physical disease. It has, in addition, regularly declared what might be termed extra dividends in the form of increased good will among nations and of experience in international cooperation for the common good of humanity.

PART D

OPPORTUNITIES

A ground swell has been developing in public and professional opinion in the direction of developing a greater effort in cancer research on a worldwide scale. This desire is now widespread, and has given rise to formulation of specific measures to further such a development.

The time appears ripe for consideration of the problem and opportunity for moral and material support to the UICC.

Research scientists in responsible positions in the Union have, during the last 2 years, drawn up a number of documents setting forth what should be done in this direction. Several of these documents were received in connection with Dr. Dorn's letter to the subcommittee. The numerous UICC documents were prepared for the consideration of various organizations, nongovernmental as well as governmental, including the World Health Organization. The documents not only delineated the challenging opportunities but also outlined the machinery for dealing with them and the financial structure proposed for its operation.

The UICC has gone on record in stating that expansion of cancer research on a worldwide scale is highly desirable; that the groundwork for international cooperation in such an enterprise has already been laid in the work it has done in previous decades; and that sufficient progress has now been made in many of the research approaches to the problem of cancer to justify the expectation that a major expansion of these efforts would, indeed, be fruitful.

Within the Union there has been recognition "that the planning be bold and imaginative. * * * However modest the beginnings may have to be, the limitations should be a consequence of practical restrictions rather than of intellectual timidity."

Proposals for Enlarged Research

The Research Commission of the UICC, in a memorandum on this subject drawn up in December 1958, stated that enlargement of cancer research on an international scale should include several categories: projects which transcend national boundaries, i.e., those that require international action for their organization and conduct; and the far more numerous and varied projects which can be conducted within national boundaries, but which need help from international sources for their initiation, guidance, and financial support.

The activities projected by the Union for the future, in the event that adequate financing becomes available, include: continuation of the conduct of International Cancer Congresses at 4-year intervals; continued publication of its official journal (ACTA), but with its editorial policies and procedures revised to meet changed conditions; improved communication among research workers all over the world; training of young people, and interchange of scientific personnel; and provision of research services.

Faster progress is needed in activities which are obviously international in character, such as developments in International Standardization of Nomenclature, in Clinical Staging, and in Morbidity and Mortality Statistics; ancillary to this is the giving of advice and assistance in establishing registries and centers, of data and of standard reference materials, in various parts of the world. The many opportunities for important findings in Geographic Pathology have already been mentioned. The Union has much material on hand, submitted by its various committees and consultants, on the planning of expanded work in the foregoing subjects.

Other Phases of Research

There are other matters which may not be immediately recognizable as of international concern in cancer. For example, the air people breathe is increasingly being used as what some experts regard virtually a sewer into which is

poured wastes from chimneys of homes and factories, from railroad locomotives, and from exhausts of motorcycles, buses, and automobiles. The air is no respecter of frontiers, and contaminants are being widely dispersed over national boundaries as well as within countries. The extent to which such contaminants may be carcinogenic needs urgently to be investigated. The carcinogenic hazards from radioactive materials in air, soils, and streams also constitute international problems in cancer research.

Foods and food products, both raw and processed, are important items in international commerce. Chemicals are increasingly being employed in protection of plant crops and in animal husbandry, e.g., as insecticides, fungicides, rodenticides, hormones, etc. The carcinogenic hazards involved in their use and in the use of food additives such as food dyes, artificial flavorings, and the many new types of preservatives need to be thoroughly investigated.

Chemotherapy Needs and Opportunities

Chemotherapy is increasingly coming to the fore. From a number of different countries the proposal has been advanced of organizing cooperative clinical investigations in cancer chemotherapy in those parts of the world where standard modes of treatment (i.e., surgery and radiation) are not available. There are many thousands of sufferers from cancer living in regions where there simply are not enough surgeons and radiologists. It has been pointed out that chemotherapy will, for many years, be the only alternative to no treatment at all.

A program is envisaged of collaborative teams consisting of clinicians, pathologists, statisticians, chemotherapists, etc., that could be set up upon invitation from countries which desired them but which do not possess the necessary personnel. The diagnoses would be made by qualified experts. Only those drugs would be employed which had previously showed promise of therapeutic benefit and after the toxicity had been thoroughly studied. Proper records would be kept, and followups maintained. In addition to the experts from other countries, qualified medical personnel residing in a region would participate in the joint enterprise. High ethical standards would be maintained. The result would be that many patients, who would otherwise have gone untreated, would receive whatever benefits newly developed drugs might confer.

There are many important facets of the cancer problem which require intensive investigation of the kind that could well be conducted within the confines of a single country. Although it is essential that these researches be expanded if more rapid progress is to be attained, expansion of such research is not feasible in most countries unless facilitated on an international basis, and the nature of the needed facilitation varies from region to region.

Varied Subjects of Research

The range of subjects which need to be more intensively investigated with respect to their bearing on cancer is, indeed, a wide one. By way of illustration, a few may be mentioned, viz.: Mechanisms in Carcinogenesis, because of the implications for prevention; Nature of Drug Resistance, because of its importance to more successful chemotherapy; Host Reactions to Early Cancer, because of its implications for earlier diagnosis; Role of Viruses in Tumor Etiology; Endrocine Genesis and Control of Cancer; Immunological Phenomena in Cancer; Biochemical Differences between malignant and nonmalignant cells and tissues; and numerous other basic science aspects of cancer.

Value of International Cooperation

Because of the interdependence of the various facets, international cooperation is highly desirable even in apparently independent projects. For example, in one country there may be an abundance of talented organic chemists; a second one may have many highly competent pathologists; a third one may have outstanding experts in genetics and in instrumentation research; and a fourth one may be in a position to breed very large numbers of needed experimental mice, rats and other laboratory animals on a much more economical basis than in other countries. With international initiative, advice, and support, the scientists could work in their separate countries on agreed-upon joint projects, each contributing his special talents to a common objective.

Moreover, even when researches are carried on quite separately, the chemicals synthesized in one country are desired in others; the animal strains and tumor lines carried in one country are needed in others; and there is mutual solicitation of information and advice across national boundaries. Hence there is genuine international help to be obtained from the researches which, at first sight, might appear to be outside the scope of international action.

No one country, no matter how large or how well endowed with research scientists and facilities, is self-sufficient in this matter. In many parts of the world, outside of the United States, there are talented specialists in science and medicine who are contributing to progress in the campaign against cancer. In most places, however, their work is hampered by limitations of facilities and funds. Unfortunately, many well-trained people, highly qualified for research careers, reluctantly give up cancer research because of the insufficient number of academic positions in their own countries which would enable them to continue in cancer work.

Here, then, is a challenge: how to minimize handicaps in cancer research which are imposed on investigators by limited facilities and funds; and how to retain in cancer research those competent research people who are forced out for lack of working opportunities. Moreover, any substantial expansion of the research effort on a worldwide scale entails the training of considerable numbers of young people who are needed to assist in the researches of experienced investigators and who, as they mature, will be able to assume responsibilities as independent investigators. This calls for a great increase in the number of predoctoral and postdoctoral fellowships, arrangements for their reception and training in other countries where such training is available, and provision of places for them to utilize their research training upon return to their own localities.

The work of experienced scientists also benefits from interchange of viewpoints, techniques, and from actual working together. To this end the Union envisages exchanges of mature scientists for longer, or shorter, periods as each situation warrants. This, too, is an activity that reaches across countries and continents.

Need for Symposia

More and more insistently is the need felt for small symposia on special subjects and for ad hoc meetings of small "working groups" in various parts of the world. As the number, and variety, of cancer investigators grows, the more requests are made of the Union to sponsor, organize, and support this mode of communication among scientists with common interests. The UICC is developing plans for meeting such needs, including the matter of costs.

The Union recognizes the necessity for provision of research services on a larger scale and in a more systematic way. The increase that has already occurred, since the end of World War II, in the number of cancer research workers in various regions of the globe has been reflected in a mounting number of findings, publications, meetings, visits, etc. This impetus is the result of several factors. In the first instance, the progress already made, and the leads opened up, attracted the interest and participation of many qualified research workers in the medical sciences who previously had regarded this field as one unlikely to yield satisfactory fruit. Secondly, the general public in many countries began to provide increased moral encouragement and financial help through voluntary organizations. In the next place, local and national governments have taken official cognizance of the importance of cancer research, and have provided recognition and material support.

Illustrative of the foregoing trend may be cited the International Health Research Act, Senator Lister Hill's proposal which became Public Law 86-610. (For text, see pt. II, p. 332.) Further, the Governments of the U.S.A. and U.S.S.R. have initiated steps to further bilateral cooperation in cancer research in accordance with the policy declarations of these Governments. The World Health Organization is embarking on a multinational program of medical research, and invited the cooperation of the UICC in drawing up the plans for the cancer program of WHO. Several of the documents cited above were prepared by UICC in response to this invitation from WHO.

Appeals for Assistance

The newly recruited cancer investigators in all geographic areas of the world need information, advice, and appropriate supplies of various materials. These requests deal with stocks of breeders of suitable animal species and strains; starting supplies of transplantable tumors; chemical agents with anticancer or carcinogenic properties; journals, reprints, and bibliographic lists for special subjects; training opportunities for postdoctoral fellows, and exchange opportunities for more mature investigators; sources of financial support for research activities; etc.

They attempt to obtain these kinds of help, information, and advice by individual approach to many persons. This is done by letter, long distance including intercontinental phone calls, cablegrams, and personal visits. These requests come, in increasing volume, from individual cancer workers to other individuals who are well known and to officials of organizations. Such help is asked of the American Association for Cancer Research, the American Cancer Society, the National Cancer Institute, etc., in this country, and of analogous organizations in a few other countries, as well as of the UICC and other international organizations. In turn, the busy officials pass on those requests, which they are unable to handle, to individual scientists who, they know, are well informed and who have been willing in the past to be helpful.

This hit-or-miss way of dealing with such requests, including a certain degree of what may be considered as "passing the buck," is inadequate. Furthermore, it has been imposing an impossible burden on some leaders in cancer research—the performance of their duties may be seriously disrupted, and many requests go unheeded for the simple reason that the senior experts do not have the time to deal with them. Neglect of, or inadequate attention to, pleas of help and advice tend to build up resentments which are harmful in a number of ways. This is particularly true when mail from scientists in distant regions cannot receive prompt attention and when, upon arrival here after traveling thousands of miles, they are disappointed in the reception they get. The flood of visiting scientists has reached such dimensions that even the making of arrangements for appropriate scientists to see them is a job in itself. (See reference to arrangements for visiting scientists, pt. II, p. 357.)

Full-time Offices in National Societies

The workload of the Union has grown to the point where it can no longer be carried, as in the past, as a part-time activity on the part of volunteer cancerologists. On the international scene the situation is analogous to that which has developed in national scientific societies in the U.S.A. For example, the increased volume of work resulting from the expansion of biomedical research in this country made it necessary for the Federation of American Societies for Experimental Biology to obtain permanent office quarters (in Bethesda, Md.) and a full-time salaried staff. Still more recently, several of the constituent societies of this federation, confronted with the problems arising from increased size and function, have taken similar steps, e.g., the American Society for Pharmacology and Experimental Therapeutics has now authorized the establishment of a central office (also in Bethesda) and is recruiting several full-time people to staff it. In 1959 the American Federation for Clinical Research reached the point in size and workload that it, too, established a national office (in New York), with a full-time executive and two full-time secretaries to do the work which had become an impossibly heavy burden for part-time volunteers to manage adequately. The American Association for Cancer Research recently set up, for the first time, a Policy Committee to come to grips with similar problems which have arisen from the increase in size of its membership and its activities.

Research Counseling Service

Difficult and time consuming as is the proper functioning of national scientific societies of present-day size and scope, it is even more complex for a scientific organization which operates on the international scale. The Union therefore now proposes to set up a Research Counseling Service as the focal point of its services to cancer investigators all over the world. This central unit will "keep the store open every day"—now required by the greater volume of business.

The functions to be carried out by the Research Counseling Service include the following:

(1) Help to investigators in all regions of the world, upon their request to the service, in matters mentioned above; also, upon their request, to provide consultation and advice on cancer research;

(2) Services to sponsoring agencies and organizations: those agencies which have occasion to deal with cancer research conducted in countries other than their own (a matter of steadily increasing importance) frequently need reliable information on institutions, facilities, programs, personnel, and conditions in other geographic areas; the secretariat would be available to provide, or to obtain, the desired information and/or advice. Requests made of sponsoring agencies, by individual workers or their institutions, could be forwarded to this service for reply and appropriate action when deemed desirable;

(3) Opportunity is present for the Union to stimulate and facilitate more, and better, research particularly in regions where there has been little or no cancer work done in the past.

Guided by policies laid down by competent advisory persons and organizations, the service would serve as the executive arm of the UICC in carrying out approved activities of this nature.

In the beginning, the Union plans to have only a small full-time staff in the service, with part-time consultants only of the kinds and in the numbers required to handle the current volume of business. If the need for enlargement should develop later on, expansion would be considered by the Union only if it were deemed wise in responsible quarters throughout the world but, even then, only if the recommendations were accompanied by assurances of contributions from many countries to the budget required.

The Grant Application to National Cancer Institute

To get this projected Research Counseling Service a going concern without inordinate delay, the UICC submitted a Grant Application to the National Advisory Cancer Council of the National Cancer Institute (Bethesda, Md.). The U.S.A. therefore had the opportunity to display pioneering leadership by providing the funds for the initial years, i.e., to make it possible for the Union to get the project off the ground. The UICC plans to obtain support for the service from other countries, on a progressively increasing scale, with a concomittant progressive decrease in the annual contribution from the U.S.A. so that, by the fifth year, this country would be providing only half of the operating expenses.

It would be recalled that fiscal management in the Union is now modernized and systematized. The modification of the bylaws, entitled "Rules Governing the Office of Treasurer," and the regular employment of a firm of certified public accountants to supervise the fiscal procedures, have been alluded to in a previous section. The Finance Committee, consisting of some 10 professional cancerologists from all geographic regions of the world with Dr. Murray J. Shear (U.S.A.) as chairman, is backed up by an Advisory Finance Council now in course of organization. The members of the council are distinguished and influential people interested in the campaign against cancer, each representing his own country; they include nonprofessional people of distinction, and women as well as men. Eventually, it is expected that every country in the world will be represented on this council. It is gratifying that so many outstanding citizens of so many countries have already accepted appointments to the Advisory Finance Council of the UICC.

Part E

NEEDS AND LIMITATIONS

From talks with UICC officers as well as from mail response, it appears that the most pressing need of the Union is a central office, with a small, full-time salaried staff, to provide services to the officers of the Union; to the Chairman of the Research Commission and of its constituent committees; to organizers of its symposia, conferences, and other meetings; to cancer investigators in all parts of the world; and to provide liaison with other organizations, both national and international (i.e., WHO, CIOMS, UNESCO, ICSU, etc.). This requires rental for office space, office equipment, and secretarial help; two high level research scientists on a full-time basis; part-time consultants as needed; and operating expenses for communications (i.e., mail, telephone, telegraph, travel). For maximum effectiveness, personnel of the highest calibre will be sought and the salary levels have been set accordingly. The costs are estimated at about $120,000 a year for the first five years.

It is out of the question for the Union to set up the Research Counseling Service until new financial support for it becomes available. In recent years the dues from all countries have amounted to only $25,000 per annum, an amount insufficient to carry out effectively its operations even on the present limited scale.

Up to now, whenever the Union has authorized the organization and conduct of an International Symposium, it has been able to provide only a trifling fraction of the cost. The committee chairman, to whom is entrusted the responsibility for a symposium, finds that he must be a financier and diplomat as well as a scientist, for his job does not consist merely of organizing the program and selecting the best qualified experts as participants. He has to see to it that

"someone" provides the local expenses of the meeting, and also gives help to the participants in obtaining the necessary travel expenses. This is no small matter. Invitations to participate are not accompanied by the assurance that the symposium will cover the travel costs; consequently each person, upon receiving an invitation, must somehow find the money for the trip. Since most of the scientists invited do not have independent means, or large incomes from private practice or from industry, they are under the necessity of soliciting money on their own behalf. Deplorably, this often gives the impression that the recipient of the honor of an invitation is merely wangling financial support for a combined vacation trip and junket. In many cases, the program is upset because those needed for the meeting were unable to raise the necessary travel expenses and could not participate.

This is a wasteful and inefficient way of conducting international conferences, as well as often being somewhat humiliating. The Union has now adopted the procedure of estimating the travel costs and is attempting to deal with the matter on a businesslike basis.

Attempts have been made in the past to meet some of the needs, which they have in common, through international organizations of more inclusive scope. Among these are: The World Health Organization (WHO); the United Nations Educational, Scientific, and Cultural Organization (UNESCO); Council for International Organizations of Medical Sciences (CIOMS); and the International Council of Scientific Unions (ICSU).

The International Union Against Cancer is affiliated with WHO, is a founder member of CIOMS, and has had close working relationships with some committees of UNESCO. It has felt comparatively less need thus far for liaison with ICSU.

None of these four organizations appears to have financial resources of a magnitude and degree of latitude capable of support of the type of expanded effort by the UICC referred to above.

PART F

PARTICIPATION BY U.S. GOVERNMENT

The U.S. Government has participated on an increasing scale in the activities of the UICC. The anti-cancer accomplishments in Federal establishments by research scientists and by control specialists have been reported to worldwide professional audiences at the congresses and the symposia of the Union, and have been reported in its published proceedings. Federal physicians and scientists have served, and are presently serving, as officials of the UICC:

General Secretary of the Union (Dr. Harold F. Dorn)

Chairman of the Control Commission (Dr. J. R. Heller, formerly Director, National Cancer Institute)

Chairman of the Committee on Geographic Pathology (Dr. Harold L. Stewart)

Chairman of the Committee on Cancer Chemotherapy (Dr. Murray J. Shear)

Chairman of the Finance Committee (Dr. Murray J. Shear)

Other Government scientists are serving as members of various committees of the Union, and of the U.S.A. National Committee for UICC—a committee of the National Academy of Sciences—National Research Council in Washington.

The Federal Government has been contributing to the support of the activities of the Union in a number of ways. Half of the dues of $5,000 paid annually to the Union by the U.S.A. National Committee comes from the National Cancer Institute. The Federal Government provides travel expenses to a limited number of scientists who participate in the sessions of the UICC; it sends Federal scientists to the Cancer Congresses and Symposia as part of their official business; and it helps send non-Federal cancer workers to these functions by means of a grant to the NRC committee, mentioned above, which determines which Americans are to receive travel support from the funds contributd both by voluntary agencies and the Government. These agencies, together with Government, also provide the administrative costs of the NRC committee. With the exception of the cost of travel to the International Cancer Congresses, which take place once in each four-year period, the total contributed by the U.S. Government to the operations of the Union amounts to a few thousand dollars a year.

As mentioned above, the Union has taken steps to obtain the funds, from all parts of the world, now required for expansion of its activities. It has authorized establishment, for the first time, of a Finance Committee and of an Advisory Finance Council whose functions are to assist the treasurer in collection of the stated dues and to secure such additional funds, from all sources, as are required for the activities authorized.

Since this is a truly international union, operated as an NGO, the UICC desires that the support be provided from all geographic regions of the globe. Even if any one nation offered to pay the entire bill, the Union would consider it unwise to accept. Although such a solution would simplify management of the fiscal problems of the Union, it might create undesirable consequences of other kinds.

Nevertheless, while looking to a future in which many countries would play their due part financially as well as scientifically, the UICC recognizes that a start must be made by someone. Many Americans—professionals and laymen—who have been in contact with the subcommittee feel that here is an opportunity for the United States to display leadership by helping the Union to help itself. Funds which this country may provide, to enable the UICC to operate with greater effectiveness, would, they feel, put the Union in a stronger position to obtain additional finances from other countries.

UICC Application to National Cancer Institute

In consequence of encouragement which it received from many Americans in and outside of medical science, the Union submitted an application to the National Advisory Cancer Council for a grant. It delineated the problem of the UICC with regard to obtaining the travel expenses for those whom it invited to its Interim Meeting scheduled for October 1960 in Japan. There, as indicated earlier, plans were worked out for the Eighth International Cancer Congress in Moscow in 1962; other management and policy affairs of the Union were dealt with in the business sessions of its officials; and three scientific symposia were held. The UICC has scheduled one Symposium on the Geographic Pathology of Cancer in Japan and one on Cancer Control. In addition, the Japanese themselves have so much research in progress on chemotherapy that they staged a Symposium on Cancer Chemotherapy in conjunction with the program of the UICC. A travel fund was required to insure the participation in these sessions of those scientists, from countries other than the U.S.A., who could not provide their own travel expenses. The National Advisory Cancer Council took favorable action on this application, and recommended that the National Cancer Institute provide $25,000 as the U.S.A. contribution towards these travel costs. This sum became available to the Union in June 1960 to make possible the travel of invited participants to its Interim Meeting.

The application of the UICC for a grant to assist it in establishing a Research Counselling Service is now being processed. This proposal was viewed favorably by the National Advisory Cancer Council. It recommended a grant of $50,000 a year for each of the first three years, with the understanding that it would indeed be a genuinely multinational endeavor as indicated by participation of other countries in the financing of the service. This pending action was placed on the agenda of the meeting of the Executive Committee of the UICC in October 1960 for further development of the proposal.

PART G

SOME POLICY PROBLEMS AS REGARDS POSSIBLE SUPPORT TO UICC

A number of policy problems confront the Congress and the executive branch. These problems concern, among other phases, the relationship between the proposed financial support for the Union and that for other intergovernmental and nongovernmental organizations.

A few such policy problems appear to be:

WHO AND UICC

1. What should be the respective optimum roles in the world research effort against cancer on the part of (a) the WHO and (b) the UICC? (It is the Union which possesses the continued, specialized know-how of the actual experts on this disease. WHO represents the national governments whose cooperation can be and has been highly valuable.)

Should WHO be a channel of financial support to an organization such as the Union (through or over and above the role of CIOMS, as described below)? Or would interposition of WHO merely insert a needless third party—an unnecessary layer of overhead—in the grant process?

CIOMS AND UICC

2. What should be the future relationship between financial support for CIOMS and for the Union? Should CIOMS be a more widely used channel for support to organizations which are its members? (At present CIOMS provides very limited subventions to a small number of medical congresses and for travel grants—see part I, page 194.)

(There is an indirect chain of contributions, so far as the taxpayers of the United States are concerned. Thus, our Government makes contributions to UNESCO and WHO. A very small amount of this money is then given by both organizations annually to CIOMS which in turn allocates still smaller amounts, as noted above.)

The U.S. contributions to CIOMS are, per se, of a multilateral rather than bilateral character as they would be in the instance of a direct U.S. Government contribution (through the National Cancer Institute) to the Union or any other organization.

(In the past, there has been some feeling in the United States that more goodwill accrues to our country from direct bilateral assistance—identified as United States in origin—as contrasted with multilateral support—where the actual origin of the grant may be somewhat obscure. On the other hand, many observers feel that the reverse is the case; that the United States receives more prestige and its motives are less suspect when it makes a contribution through a multilateral organization without requiring that the specific origin of the money be clearly identified to the ultimate recipient.)

(Holders of the latter view feel that the world's medical experts are more than sophisticated enough to appreciate and esteem the generous—but indirect—role which the United States would play in an expanded multilateral effort.)

PRECEDENT AS REGARDS OTHER GROUPS

3. Would the precedent of a contribution for the Research Counseling Service open up an avalanche of requests for similar contributions to other hard-pressed international specialty organizations? (Some individuals believe that it would, and that the United States would find it difficult to make choices between the anticipated large number of applicants. Others believe that many requests would come, but that the choice would be no more difficult than the present decision-making process in the United States Government in providing—on their scientific merits—certain types of assistance to national organizations as well as limited travel grants and other support for international groups.

(Holders of the latter view feel that the grant in any event would be of a "seed" character—a little amount which would generate considerable funds from other sources. A logical question, therefore, is to what extent the money would actually seed itself and the trend of financial support by national governments be stimulated elsewhere?)

POSSIBILITIES THROUGH VOLUNTARYISM

4. Can financial support from voluntary, i.e., private sources, be mobilized to a greater extent for an international professional organization such as the Union? (Those who answer this question "yes" are well aware of the relative lack of success of international professional organizations in soliciting from private donors in the past. They feel, however, that evolving experience with voluntaryism would lead one to hope that a more dynamic effort might succeed in the future. They believe, too, that in other nations, voluntaryism can be further stimulated, particularly if favorable tax treatment is afforded, as in the United States.

They assert that public funds might tend to dry up private funds.

(Holders of an opposite view contend that history proves that public research funds generate rather than dry up private contributions. They assert that researchers should not in any event be expected to find time or know-how to become fund raisers; that it is intrinsically more difficult to raise money for an organization composed necessarily and almost exclusively of professionals,

rather than of a "balanced" combination of professionals and laymen. The presence of the latter, in considerable numbers, on boards of directors might serve to improve likelihood of raising funds but might be incompatible with a professional organization's status. In any event, it is widely felt that underdeveloped countries can hardly be expected to contribute substantial private funds and that many developed countries have strong traditions and customs contrary to our own voluntary-type approach.)

Over and above these pros and cons are still additional factors.

SUMMARY OF ARGUMENTS: PRO AND CON

Basically, however, supporters of the proposed financial support contend that if the United States Government believes that the battle against cancer is worth 111 million dollars of Federal expenditures (1961 fiscal year obligational authority for the National Cancer Institute alone), it is not expecting too much to have it provide $50,000 or so to an international organization of undisputed pre-eminence and purpose.

They contend that from this latter infinitesimally small amount, immense scientific good would accrue—far in excess of the mathematical fraction of the total U.S. outlay against cancer, which is involved.

And they assert that it would be impractical and contraproductive for the United States to expect or want the National Cancer Institute in Bethesda—despite its pre-eminence—to become the Information Counselling Center for the cancer experts of the world. Rather, they assert the world's professional experts should be enabled democratically and irrespective of any particular nation's financial contribution to set up their own instrumentality where they want it and in the way they want it.

Individuals who are concerned about the trend of possible support do not question the Union's or any similar expert group's qualifications for aid but they do question whether it is the U.S. Government which should provide it. They fear that every year would witness increased financial demands not only from the Union but from other international professional organizations. They question whether the entrance of the U.S. Government into still another phase of expenditure would actually stimulate other national governments to reciprocate and supplement United States financial support.

They question, too, whether the overhead for what they fear might become a bureaucratic-type structure might not grow and grow, irrespective of who is paying the bill (or perhaps, especially because it would be the United States virtually paying most or all of the bill).

THE DECISIONMAKING AHEAD

Senator Hubert Humphrey, chairman of the subcommittee, has emphasized that, so far as the U.S. Congress is concerned, the ultimate decision on policy problems such as the above would have to come from those expert committees within whose jurisdiction this subject falls; namely, the Senate Committee on Labor and Public Welfare, the House Committee on Interstate and Foreign Commerce, and the Subcommittees on the Departments of Labor-Health, Education, and Welfare of the Senate and House Committees on Appropriations.

Senator Humphrey has stated that evidence compiled by the staff would appear to him to indicate as follows:

(1) Cancer specialists appear enthusiastic and virtually unanimous in favor of expanded official grants to the UICC; (2) they regard concern as to possible undesirable results of official U.S. support as being negligible and unwarranted; (3) they feel that the precedent of the NINDB grant to the World Federation of Neurology is a strong one; (4) neurological leaders assert that the latter grant has already resulted in worthy dividends to international research; (5) the prospect of NCI grants has already been a catalyst toward possible increased support from such distinguished foreign organizations as the Imperial Cancer Research Fund and the British Empire Cancer Campaign; (6) the UICC is diligently exploring other possibilities of support; it is not overrelying on one source—the U.S. Government; (7) early timing of final, official U.S. support will be crucial in capitalizing on the momentum of UICC progress.

INTERNATIONAL SOCIETY OF CARDIOLOGY,
Rome, July 23, 1959.

DEAR MR. HUMPHREY: Many thanks for your letter of July 13th.

First of all allow me to express my appreciation and gratitude for your initiative. I have been interested in cardiology since 1934 and am firmly convinced that heart disease represents a major health problem. At present more people die of cardiovascular diseases than of all other diseases together. Ever since 1939 I have been urging the Italian Public Health Ministry to start a full-scale program for the control of heart disease in Italy, and in 1946 such a program was actually implemented through the organization of a network of outpatient clinics and research centers throughout the country.

On the other hand, nobody believes more firmly than I, due in part to my close and longstanding contacts with cardiologists all over the world, that advance in scientific research and the success of control measures depend, in this as in every other field of science, upon the close cooperation not merely between a few men working in the same country, but also and to a greater extent between men of the various countries of the world. International group research has the advantage of utilizing minds trained in different schools, tending to look at the same problem from different standpoints, and to evaluate the findings and conclusions in different manners. Furthermore, researchers in different countries work under different conditions and with different material. International cooperation makes it possible to compare the findings obtained under such different conditions, and this results in a fundamental progress of our understanding of diseases. There is ample evidence in support of this statement.

You kindly ask for my personal opinion on how can the U.S. Congress strengthen international cooperation in cardiovascular research. I believe that the best way is, as suggested, the establishment of a National Institute for International Medical Research. It seems to me that the new institute could act in several ways:

1. Make use of the diplomatic and cultural channels available to the U.S. Government throughout the world in order to stimulate interest for international medical cooperation.

2. Sponsor the organization of teams of experts of different nationalities, who would work together on well-defined projects whose usefulness is recognized by the institute.

3. Promote meetings between experts of various countries, both during world and continental congresses and independently of such official conferences, for the purpose of discussing scientific problems and of suggesting and evaluating special research projects, to be carried out either by the experts themselves in their own countries or by international teams appointed to work in suitable parts of the world.

4. Examine applications for financial help from researchers throughout the world for especially valuable research projects. Back the granting of funds from the proper sources and if possible give direct financial support to such investigations.

Personally, as the Secretary General of the International Society of Cardiology, I believe that this society could cooperate usefully with the proposed Institute for International Medical Research. As Dr. Paul D. White undoubtedly explained at the hearing you mention in your letter, the International Society of Cardiology embraces cardiologists from every continent. It is a voluntary association of 3 continental and 38 national cardiological societies. It has several committees: research, nomenclature, preventive medicine, and others. So far its main activity has been the organization of world congresses, of which there have been three: Paris in 1950, Washington in 1954, Brussels in 1958. Thousands of cardiologists from all over the world have attended the meetings, which represent very important landmarks in the progress of modern cardiology. The work of the committees has been somewhat curtailed by the scarcity of funds; after the Brussels congress, however, there have been encouraging signs of greater vitality.

At the present time the society is working on three main projects:

1. Publication of a directory listing all the societies affiliated to the International Society of Cardiology, their councilors and members.

2. Divulgation of periodical news bulletins to be published on the leading medical journals of the entire world, in order to call the attention of the medical world on the aims and activities of the society.

3. A project, planned in cooperation with the World Health Organization, for the establishment of uniform terminology and criteria of work in epidemiological research. It is known that epidemiological studies are an essential tool for the understanding of the causes of heart disease. I believe that Dr. White explained this clearly at the hearings before the Committee on Labor and Public Welfare of the U.S. Senate in February 1959. Epidemiological investigations are underway in several parts of the world, but it is absolutely essential to coordinate the methods used by the different researchers.

I am convinced that if the Institute for International Medical Research is established, and if it will pay due attention to cardiovascular diseases and cooperate with the International Society of Cardiology, medicine in general and cardiology in particular will take a tremendous step forward, to the great benefit of the people of the whole world.

The above is only a broad outline of the program as I see it. You may be assured that I myself and all the members of the international society and its committees will be glad to cooperate with your subcommittee to the best of our abilities, for any additional information or more detailed analysis you may require.

Sincerely yours,

DR. VITTORIO PUDDU, *Secretary General.*

LETTERS FROM INTERNATIONAL CARDIOVASCULAR SOCIETY

THE INTERNATIONAL CARDIOVASCULAR SOCIETY,
New York, N.Y., August 12, 1959.

DEAR SENATOR HUMPHREY: At your kind request, I am pleased to submit to you and your committee the following recommendations from our society concerning ways and means of strengthening collaboration in international cardiovascular research.

First, I should like to outline very briefly the scope, composition and functions of the International Cardiovascular Society. As stated by our constitution, the objectives of the society are: (*a*) to promote investigation and study of the art, science, and therapy of cardiovascular diseases, to coordinate this knowledge and to disseminate it; (*b*) to facilitate on a worldwide scale exchange of ideas pertaining to the field of cardiovascular diseases through scientific meetings and by personal contact between cardiovascular specialists.

The majority of our members are cardiac and vascular surgeons. A smaller percentage is represented by cardiologists, radiologists, and physiologists.

The international society is composed of a central organization, the headquarters of which are in New York City, and three regional chapters which are North American (United States and Canada), European, and Latin American. Each of the regional chapters is composed of national societies.

In addition to annual regional meetings, the international society holds biennial international congresses with the participation of all the chapters.

Few specialties of medicine have exhibited the phenomenal progress which has taken place in cardiovascular surgery during the past decade. Many conditions which only a few years ago were considered hopeless are now amenable to successful surgical treatment. While the progress has surpassed all previous hopes in this field, there is still much to be accomplished both scientifically and from the point of view of disseminating the knowledge and practice of cardiovascular surgery.

There are several areas in which the assistance of the Federal Government could be of inestimable help by promoting collaboration in international cardiovascular research. We should like to point out some of these areas.

In this field of endeavor, as in any other, international cooperation is essential. While a great number of basic contributions were provided by American surgeons, a number of other equally fundamental ones have originated from European cardiovascular centers. Rapid dissemination of these new advances was, and is, obviously of the utmost importance. In certain countries, however, especially in some Latin American ones, progress has been slow to evolve. A number of surgeons from Latin America and Europe alike come to the United States either at their own expense or subsidized by some fellowships to acquire the new techniques necessary for the treatment of cardiac and vascular diseases. However, a great number of surgeons who would wish to spend time for acquiring the new knowledge in this field are unable to do so because of lack of funds.

This would be one of the areas in which the Federal Government could provide the necessary financial support to a number of promising surgeons from other continents to enable them to come to the United States and acquire the desired knowledge. Our society would be very happy to provide information or give necessary references which would be useful in the proper selection of candidates should such financial support be made available.

International meetings are very important for dissemination of new information and for bringing about better cooperation between the cardiovascular surgeons and physicians of the various countries of the world. The budget for financing such meetings is derived from small contributions from each chapter. Because of the insufficient income of the society in order to meet the great expenses involved in the organization of international congresses, our society has to apply for outside support. Unfortunately, such requirements are not always met favorably. This results in the curtailment of some of our important activities. It may be noteworthy to mention that when our society met either in Europe or Latin America, the host country provided, through their central or local government, financial support for simultaneous translations in four or five languages, as well as for other functions of the congress. In 1957, when the third international congress of our society was held in Atlantic City, the North American chapter had to bear the entire brunt of the costs. Part of this was provided by donations from pharmaceutical concerns. We feel therefore that the Federal Government may establish some mechanism whereby international congresses may obtain some financial support, at least when they are held in the United States.

Some projects that the society would want to undertake have been delayed because of lack of funds. One of these projects concerns itself with international surveys of certain aspects of cardiovascular diseases as it pertains to epidemiology and surgery. Such projects are not only worthwhile but urgent in order to coordinate the vast knowledge being acquired in all the far corners of the world. We feel that the support of the U.S. Federal Government in such an area will be of inestimable value not only from a purely scientific point of view but also would cement our relations with the lowest income groups throughout the world.

Although the society was founded in 1950, we have no official journal as yet. At our forthcoming congress in Munich, the problem of the journal is on the agenda and we hope to be able to establish an official International Journal of Cardiovascular Surgery. As plans stand now, this journal will be published in three languages: English, French, and Spanish. It is hoped that prompt publication of the important papers could thus be achieved. In the first 2 or 3 years, outside financial support may be needed for the solvency of such an endeavor. At this juncture, even a short-term support from the Federal Government might help develop this project.

These are a few of the recommendations that we should like to submit to you and your committee. In addition, I am enclosing letters from three of our members on the executive council of the society. These are: (1) a letter from Dr. Michael De Bakey, president of the International Cardiovascular Society, who has recently been on the panel on the Report to the Nation on February 19 of this year in Washington, and who has also testified before the House of Representatives before its Committee on Health and Safety a few days ago; (2) a letter from Dr. Harris B. Shumacker, Jr., one of our vice presidents and former president of the North American chapter of this society; and (3) a letter from Dr. Ralph A. Deterling, who is the treasurer of our society.

We hope that our recommendations would be of some help to you and your committee for establishing a comprehensive review of the problems involved with regard to international cardiovascular research.

Respectfully yours,

HENRY HAIMOVICI, M.D.,
Secretary General.

Extracts from the letters which had been received by Dr. Haimovici follow:

MICHAEL E. DE BAKEY, M.D.

I have followed closely the legislation on the health for peace bill which, as you know, has passed the Senate, and I have been asked to testify before the House of Representatives later this month when the bill is presented before its Committee on Health and Safety.

I, of course, feel very strongly that international cooperation along the line of scientific research can be a potent and far-reaching influence for world peace as well as for general improvement of health. There is no doubt in my mind that even from a purely economic standpoint our money will be well spent that is spent for improvement of the health of the lowest income groups. Such an extensive project as this in addition would provide incalculable opportunities for study of trends and patterns and for coordinating work already done with that which we are performing now both clinically and in our laboratories. These thoughts are particularly applicable to research in cardiovascular disease, and I intend to state this concept clearly in my statement to the committee.

HARRIS B. SHUMACKER, Jr. M.D.

At the moment I don't know just how his committee could be of help except in one matter. I think it might be brought to his attention that these international meetings are very important ones for dissemination of new information and for bringing about better cooperation between the practicing physicians and surgeons of the various countries of the world. You might also mention to him that when we have an international meeting in a foreign country, that country often helps the society by subsidizing the meeting to a certain extent and that, in contrast, when the meeting is held in this country, the local North American chapter has to bear the entire brunt of the cost. His committee might, therefore, be willing to see whether money could be made available to help subsidize future meetings of the International Cardiovascular Society in North America.

I think you also might tell him that although the society has not, up to the present time, conducted any international surveys but has confined its interest to the cementing of better relationships and to holding of meetings where new material is reported, that it may be possible in the future that the society might want to embark upon some types of survey studies which might require some financial assistance.

RALPH A. DETERLING, Jr., M.D.

Thank you for the copy of the letter from Senator Hubert H. Humphrey. I have a number of thoughts on the matter of strengthening collaboration in international cardiovascular research and the exchange of information which we touched upon in a conversation prior to my leaving New York a few weeks ago.

All major laboratories get requests during each year from people in foreign countries to work in the laboratory for periods of 6 months to a year, and who have excellent qualifications but no means of financial support, during such a period of time. Since most training agencies in the United States have only one application deadline per year, or exclude foreigners from participating in their fellowship programs, it seems that the Federal Government could set aside a budget for support of worthwhile foreign students and to get necessary subsidization in travel and maintenance.

Another means of exchange of information and collaboration in research would be to have a Federal fund subsidize the development of exhibits and motion picture films. These could be prepared in the language of a specific country in the event either was to be submitted for use in some international or foreign meeting. As you know, it is very expensive to produce a good exhibit or motion picture. Hospital and university budgets cannot assist, particularly if it is for foreign consumption, and most of the commercial enterprises steer clear of such support as well. I know of a great desire among surgeons in Soviet Russia to develop such an exchange program of motion picture films in surgical topics.

It would be very desirable to have Federal funds available to support outstanding American residents, fellows, or postgraduate students with respect to travel and maintenance during a period of study abroad. Most university hospital programs have some leeway in the 4 years for at least 6 months participation in research. A number of excellent men have at their own expense spent 3 months of this time abroad and many others would take advantage of such an opportunity if there were financial support.

I would think that Federal encouragement of international congresses in the United States would by necessity call for subsidization of some of their activities. Among these would be simultaneous translations in various languages which

are quite costly in terms of a society budget. On occasion subsidizing the visit of an extremely accomplished foreign worker so that he might participate in such meetings would seem in order. Here again most societies cannot assume such expense. Finally, some support in the cost of publishing transactions of such meetings would make it possible to propagate such exchange of information abroad.

With respect to the function of the American component of international societies, it would be worth considering Federal subsidization of certain of the officers so that they could, without great personal sacrifice, participate officially in the European, Latin American, and Asian scientific programs of their foreign colleagues. As you will recall, we participated in the Latin American congress of our society in Havana at our own expense. We expect to go to Munich this year, again at our own expense. It would be fine if we were able to apply for supporting funds should our personal finances not be able to support such a trip.

I trust that my thoughts have some useful response and that they might serve to be of assistance to Senator Humphrey.

THE INTERNATIONAL ACADEMY OF GYNECOLOGICAL CYTOLOGY,
Buffalo, N.Y., May 12, 1959.

DEAR SENATOR HUMPHREY: We would like to bring to your attention a new international organization that is performing a vital function in its field. The International Academy of Gynecological Cytology was founded in Brussels in July 1957 by a group who were attending an international meeting in cytology held there.

The International Academy of Gynecologic Cytology performs and plans to perform three major services. It provides an international forum for the exchange of ideas in its publication the "Acta Cytologica." It plans to provide instruction and aid in the development of cytology in countries underdeveloped in this science by the institution of visiting professorships. It is planning an international meeting in Vienna in August 1961 for the exchange of ideas and dissemination of information.

"Acta Cytologica" is a journal published three times a year and is edited by Dr. George L. Wied. Three issues have been printed up to date. Temporary financial assistance has been given by the University of Chicago and the Cancer Research Foundation. The format of the journal is that of a symposium on topics of timely interest. (See enclosed copy.) The reception of the "Acta Cytologica" has been enthusiastic, far exceeding our expectation. For example, in the last issue 73 contributors from 19 countries participated.

The cytologic diagnosis of cancer was fathered by Dr. George N. Papanicolaou. Due to his tremendous contribution it is firmly established. However, it has been accepted for only a scant 11 years and inevitably the number of experts is small and many areas have no provisions for this service. We hope to provide visiting professorships to allow eminent cytologists with linguistic and teaching abilities to spend a few weeks or months for the establishment and development of cytology in areas of need. The institutions desiring this aid would apply in the International Academy of Gynecological Cytology, who in turn would appoint a visiting professor.

An international meeting in cytology is planned in Vienna in conjunction with the International Gynecologic Congress which is to be held there in September 1961. The personal contact of a meeting is regarded as essential to the exchange of ideas.

The International Academy of Gynecological Cytology is a select group of 56 members from 17 countries that includes in its membership a large majority of the leading cytologists of the world. From the nature of the organization it was inevitable that it must assume responsibilities with financial implications far beyond the resources of this small group. We require financial support to carry on as outlined above. A copy of our budgetary needs is enclosed. We are currently submitting an application to the World Health Organization for this financial support.

Sincerely yours,

RUTH M. GRAHAM, Sc. D., *Secretary-Treasurer.*

BUDGET

We require funds for three purposes:

1. The publication of the "Acta Cytologica." The expenses of publishing the journal are as follows:

Secretarial help		$9,600
Proofreaders		2,640
Actual cost of 1,250 to 1,500 copies per issue (3 issues)		9,900
Postage		2,650
Artist		300
Thermofax-photographic expense		600
Translation expenses		360
Addressograph expenses		250
Total		26,300
Less subscriptions	$4,500	
Less advertisements	2,050	
Total		6,550
Net annual requirement		19,750

It may be that the journal will receive more moneys from advertisements, but so far we have found that American companies are reluctant to advertise in an international journal.

2. Cost of supporting visiting professorships, $10,000 per year.

3. The support of an international meeting of the Academy of Gynecologic Cytology in Vienna in September 1961.

Estimated cost of simultaneous translation for 2 days	$3,500
Additional expenses—programs, mailing costs, rent for auditorium	1,500
Total amount for meeting	5,000

Total amounts:

To print 3 issues of the "Acta Cytologica" per year	$19,750
Funds for visiting professorships per year	10,000
Requirements per year	29,750
International meeting, 1961	5,000

Though an estimation of the expense of publishing the "Acta Cytologica" can be done rather accurately the estimation of the expenses for visiting professorships and the international meeting are of necessity estimates.

INTERNATIONAL DENTAL FEDERATION,[4]
London, W.1., October 1, 1958.

SIR: Our member association, the American Dental Association, has called our attention to the investigation to be carried out by the Subcommittee on International Health and Medical Research, which you head.

I write to say that the Fédération Dentaire Internationale is greatly interested in this project and wishes to offer to the subcommittee its services and facilities for the collection of data relating to the dental profession throughout the world, which the subcommittee may require.

I am sending you under separate cover for your information the following documents:

1. A short factual and informative pamphlet about the federation—"Some Facts About the FDI."

2. A progress report of the federation, which summarizes the work accomplished during the past 5 years.

3. The report of the Public Dental Health Services Commission presented at our last annual meeting in Brussels, Belgium, August 27 to September 2, 1958.

4. The report of the scientific commission presented at the Brussels meeting.

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[4] The federation is referred to by both its French and English titles in pt. 1, p. 198.

5. An example of the documents available through the federation—"Memorandum on Dental Research in the United Kingdom."

I would also suggest that you and the members of your subcommittee might care to meet and discuss international dental health problems with various FDI officials on your proposed trip abroad in November next, in particular:

The president of the Commission on Dental Research, Professor P. O. Pedersen, dean, Royal Dental College, 4 Universitetsparken, Copenhagen, Ø Denmark.

The president of the Public Dental Health Services Commission, Dr. H. Freihofer, 15 Tödistrasse, Zurich, Switzerland.

The president of the Regional Commission for Europe, Dr. E. Müller, Hamburg-Altona 5, Bei der Johanniskirche 3, Germany.

I hope that the federation through this office and its officials may be given the opportunity to be of service to your subcommittee.

Yours faithfully,

G. H. LEATHERMAN, M.D., *Secretary-General.*

THE INTERNATIONAL DERMATOLOGICAL COMMITTEE
OF THE INTERNATIONAL LEAGUE OF DERMATOLOGICAL SOCIETIES.

MY DEAR SENATOR: In reply to your communication of June 25, 1959, I like to inform you that the International Dermatological Committee and the International League of Dermatological Societies is now arranging for its 12th International Congress of Dermatology, to be held in the United States and planned for Washington, D.C., from September 9 to September 15, 1962. Circumstances permitting, international congresses of dermatology are held at intervals of 5 years, and have been so held since 1889 in Paris.

The U.S. Government, through its National Institutes of Health, has recognized the fundamental importance of our forthcoming congress for the promotion of international medical research and world health. This recognition has been manifested in concrete fashion through a liberal grant from the National Institutes of Health.

It is hoped that some high official of the U.S. Federal Government will honor the Congress and open it formally.

Our plans are to include selected topics dealing with international medical research, international communication, and world health prominently on our program, with practically all of the interested countries of the world as well as many representatives from the United States, including its Federal health agencies such as the medical departments of the armed services, U.S. Public Health Service, and Veterans' Administration actually participating.

It would take too much space to list all of the projected topics and activities in this letter. Fortunately, the president of our international committee and International League of Dermatological Societies, Dr. Marion B. Sulzberger, is on the faculty of New York University-Bellevue Medical Center, 550 First Avenue, New York City, and he has assured me that he will be glad to give you and your committee further details of our activities and plans, as well as outlining specific areas in which your committee might be of immediate assistance.

It is also certain that Dr. Donald M. Pillsbury, of Philadelphia, president of the forthcoming International Congress of Dermatology in Washington, and Dr. Earl Osborne, of Buffalo, N.Y., its secretary-treasurer, will be able and more than pleased to furnish further information and render all possible help to your committee.

Some of the topics under consideration for the program of our congress include matters of ecology and the effects of genetics and environment on the divergent incidence of cutaneous diseases in different parts of the world; the skin diseases of industrial workers (60 percent to 80 percent of all industrial disease is skin disease); tropical diseases of the skin; the international fight against leprosy; treponemal diseases; the protection of the skin against radiation damage; the relationship between cutaneous diseases and mental health; the genesis of cancer and the influence of environment on skin cancer, etc.; the use of television programs as a means of international medical communication, education and research; and many others.

In particular, our international organization requires additional funds to grant travel fellowships for scientists from all countries to gather and spread information on cutaneous phenomena and diseases for purposes such as those

outlined, and to enable qualified scientists and promising young investigators to travel and then to attend the international congress in Washington. The grants obtained from the U.S. National Institutes of Health do not, I believe, include such travel fellowships.

May I take this occasion, my dear Senator, to express to you and your committee the gratification of our committee and the International League of Dermatological Societies on learning of your interest. We hope that collaboration between us will prove most fruitful in the promotion of international research and world peace and understanding as well as world health.

Dr. Sulzberger, who has helped to formulate and has approved this reply, joins me in best wishes and assures me he will be at the disposal of your committee for further details and discussion almost any time after his return to New York City on September 7, 1959.

Respectfully yours,

SVEN HELLERSTRÖM, *Secretary and Treasurer.*

INTERNATIONAL DIABETES FEDERATION,
London, July 27, 1959.

DEAR SENATOR HUMPHREY: Dr. Karl Jahnke has forwarded to me your letter of 9th July since he was only concerned with the last International Congress on diabetes in Düsseldorf as the organising secretary, and is not in a position to reply to your letter.

Taking the two points which you raise in order: Regarding item 1, the International Diabetes Federation is composed of 30 member associations of which I include a list for your information. Each of these associations represents the interests of the diabetic community in that country, and the estimated diabetic population of the world is 1 percent. Unfortunately, very few detection drives have been carried out, but this work is being done by principally the American Diabetes Association, the three Scandinavian diabetic associations, and the Indian Diabetic Association. The British Diabetic Association has also carried out a limited detection drive in a small area.

The main purpose of the foundation of the federation is the organising of an international congress on diabetes which takes place every 3 years. The first was held in Leyden in Holland, at which about 250 people were present; the second at Cambridge, England, at which there were approximately 500 persons present; and the third congress was held in Düsseldorf last year when over 1,000 people attended from some 40 different countries. The fourth congress will be held in Geneva in 1961 when it is hoped that approximately 1,000 will attend. The greater majority of those who come to these conferences are, of course, medical men, but it does also include laymen and in particular the secretaries of the various diabetic associations.

The organisation of the congresses is supported by CIOMS, but in the main the cost of these congresses is raised with difficulty by the member associations themselves, with the support of the several insulin manufacturers in the world. Between the congresses, the federation issues a "News Bulletin" of which I enclose some recent copies. The federation is financed by a subscription from each member association, worked out at 15 Dutch cents per individual member of each association. We are run by an executive board of representatives of the various member associations, some lay, some medical, and the board meets approximately every 18 months.

Regarding item 2 of your letter, one of our greatest needs is, of course, financial support. In many of those countries where there is a need for a diabetic association, and which would benefit from contact with the International Diabetes Federation, the membership of the association is somewhat low and often composed almost entirely of people who are unable financially to support the association to any great extent. Thus, their contribution to the work of the federation is equally low. This makes the holding of its triennial congress a source of continual worry, and this is, of course, to be greatly regretted as there is no doubt that the international exchange of information on this disease is of extreme importance. The actual cost of our last congress in Düsseldorf was approximately £12,000 which I am sure you will agree is a tremendous sum of money to raise from voluntary sources. The actual congresses themselves are concerned both with the medical and the social aspects of diabetes.

The publication of our "News Bulletin," which is at present done from this country, is also a somewhat expensive undertaking in view of its limited circulation, but I should mention that it is hoped that the headquarters of the federation will move to Geneva where it will be in closer touch with WHO with which it is affiliated, and it is hoped that this move will reduce some of these costs.

If there is any further information which you would like, please do not hesitate to let me know.

With all good wishes,

Yours sincerely,

JAMES G. J. JACKSON, *Acting Secretary.*

INTERNATIONAL LEAGUE AGAINST EPILEPSY

[Translation (French)]

MEDICAL SCHOOL OF MARSEILLE,
Marseille, July 10, 1959.

DEAR MR. HUMPHREY: I duly received your letter of June 3, 1959, which I read with very careful attention and which I shall try to answer, although the questions which you posed to me are very broad in scope and cannot be summarized in a few lines.

It is true that I have since the beginning of my career devoted the largest part of my activity to the study of epilepsy and the fight against that disease; first as a practicing physician, teacher, and scientific researcher, then as Secretary or President of organizations fighting against epilepsy. That is how I became secretary general of the French League Against Epilepsy, officially founded by me in 1949. I also reorganized the scientific structure of the International League Against Epilepsy, with the result that the International Neurological Congress has invited the league to attend its quadrennial meetings.

I am, in addition, secretary general of the International League Against Epilepsy, after having been its elected president; and I am now working on the reorganization of the medical journal *Epilepsia.*

At the present time the International League is a truly effective tool owing not only to its quadrennial Congresses, which were held in Lisbon in 1953, in Brussels in 1957, and which will be held in Rome in 1961, but also to its Journal *Epilepsia,* now being published by Maison Elsevier in Amsterdam and appearing four times a year, the scientific standard of which is absolutely remarkable and which collates all medical, experimental and social research on the disease.

The International League comprises some 15 national branches, some of which are very active from the social viewpoint; especially the Dutch, British, American, German, Swiss, and Czechoslovak Societies. The French Society is making large-scale efforts, the two most important of which are represented by the Lycée de Chateaulin for intelligent epileptic children, who are unable to pursue regular studies, and the Observation and Orientation Center for Epileptic Children at Marseille. The latter center, built according to the indications of the WHO Commission of Experts on Juvenile Epilepsy, is a remarkable achievement; it includes hospital buildings, schools, a large diagnostic center for extern consultants with the most highly perfected techniques in electroencephalography and neuroradiology. The center also includes a Research Unit, organized by the National Institute of Hygiene. All of these buildings were constructed in 1959 and are grouped in a large park in the outskirts of Marseille. As of 1960, they will accept foreign visitors who wish to specialize in the study of juvenile epilepsy.

As concerns the present state of research in epilepsy throughout the world, it may be said to be excellent. The strides made in electroencephalography and neurophysiology during the last twenty years have facilitated an extraordinary increase in the physiopathogenic knowledge on the subject of epilepsy. The clinical, radiological, and anatomic studies have followed the trend and have become more and more numerous and available.

From the social point of view, the state of affairs is less satisfactory. First of all, there is a great need for large-scale demographic studies on a worldwide basis. The data on the frequency of epilepsy, gathered principally in the armies and in the schools of some countries, are very insufficient.

Likewise, there is a great need for a geographic pathological investigation of the importance of the etiological differences of epilepsy on a worldwide basis.

Research of this kind deserves to be undertaken by the WHO and governmental organizations. The International League Against Epilepsy would be very happy to undertake these studies if it could receive aid in that sense.

Insofar as my own work is concerned and that of my school, it is impossible for me to send you the reprints which you request, for we have published over three hundred communications, reports, and books on epilepsy during the last twenty years. I am enclosing herewith a list of the reprints and communications available in my laboratory and you will see that they deal in the majority with the subject of epilepsy. Of course, we shall send you all these reprints if you deem them useful.

Every year I organize in my laboratory an International Colloquy which is, every other time, devoted to epilepsy. The most important colloquies on this subject were held in 1954, on "The general and anatomo-pathological problems posed by epileptic seizures", and in 1956, on "The electro-clinical study of the psychotic episodes occurring in epileptics outside of clinical crises". The 1954 colloquy was repeated, moreover, in 1957 by the National Institutes of Health in Bethesda, and its proceedings were published in an important volume by Charles Thomas of Springfield, Illinois.

I, myself, as representative of the International League Against Epilepsy, gave courses and lectures on the treatment and diagnosis of epilepsy in different parts of the world, especially in North and South America, Europe, and the Far East.

Some of the principal works on epilepsy that have been done in Marseille consist of:

(1) focus on EEG activation procedures of epileptics by light, noise, cardiazol, megimide, the combination of cardiazol and light (photo-cardiazolic activation), and the inhalation of oxygen-poor gases;

(2) experimental studies concerning the reproduction of epilepsy by implanted electrodes and injections with alumina cream;

(3) anatomic studies of spontaneous human and animal epilepsies and of experimental epilepsies:

(4) contribution to the individualization of certain clinical forms of epilepsy:
photo-sensitive epilepsy;
epileptic seizures;
the syndrome of hemiconvulsions-hemiplegia-epilepsy;
spasmic disorders in flexion;
epilepsies of the temporal lobe; etc.:

(5) contribution to the diagnostic differentiation of epilepsy: study of the vaso-vagal reflex syncopes of the sino-carotidian hyper-reflex syncopes, and of the cerebral eclipses.

In hopes that this information will be useful to you and will aid you in your fight against epilepsy, please accept, dear Mr. Humphrey, the assurances of my best sentiments.

Professor HENRI GASTAUT,
Director, Neurobiological Laboratory.

List of Available Reprints

Persons wishing to obtain reprints are requested to address their request to the "Laboratoire de Neurophysiologie Clinique, 38 boulevard Longchamp, Marseille I," upon indication of the number of the corresponding item.

I. Studies of Epilepsies—1958, [1957, 1956, 1955, 1954, 1953, 1952, 1951].
II. Studies of Syncopes. 1958, 1957, 1956.
III. Studies of Infectious, Traumatic, Vascular, Toxic, and Degenerative Encephalopathies. 1958, 1957, 1956, 1951.
IV. Studies of Conditioning, Behavior, and Other Psychological Phenomena. 1958, 1957, 1956, 1953, 1951.
V. Neurophysiological Studies. 1958, 1957, 1956, 1950.
VI. Technical Studies (Apparatus and Methods). 1953, 1952, 1950.

[Translation (French)]

INTERNATIONAL LEAGUE AGAINST EPILEPSY,
Marseille, September 15, 1959.

DEAR MR. HUMPHREY: I am in receipt of a letter from you dated June 3, 1959, asking me for comments and recommendations for incorporation into a brochure to be issued by your subcommittee relative to epilepsy.

* * * * * * *

Just recently Dr. J. Radermecker forwarded to me a letter which you had addressed to him on July 9, and which related to the League Against Epilepsy. The correspondence was of direct concern to me since I am secretary general of the International League Agaist Epilepsy and editor of the new review *Epilepsia*, while Dr. Radermecker, following the Congress at Brussels at which he served as temporary Secretary, has no further connection with the League.

In answer to the questions posed by you in that last letter, I should state that:

(1) The International League Against Epilepsy, which has been in existence more or less actively since the beginning of the century, did not become actually effective until 1949. At that time, as a matter of fact, the developments in electroencephalography had led to the establishment of an International Federation of Electroencephalographical Societies, of which I was the Secretary General at the time and later became its President. Since electroencephalography is specially related to the problem of epilepsy, the development of the former led to that of the latter, and the Federation soon saw the need for publicizing the importance of its "sister organization," the International League Against Epilepsy.

The I.L.A.E. is composed exclusively of national societies. There are now some 15, among the most active of which are the German, American, British, Danish, Spanish, French, Dutch, Italian, Japanese, Swiss, South American, Swedish, etc., societies. The two principal tasks of the I.L.A.E. are: (a) the organization of its international congress, which is held every four years coincident with the International Neurological Congress. Those congresses have been in existence only a few years: the first, held at Lisbon in 1953, placed emphasis on psychomotor epilepsy which has been very successful; the second, held in Brussels in 1957, dealt with relations existing between pathological anatomy and EEG shock treatment; the third congress will be held in Rome in September 1961 and the subject matter will be fixed within a few days by a commission which I asked to meet for that purpose here at Marseille; (b) the other major task of the I.L.A.E. is the publication of the International Review *Epilepsia*. This review, which had appeared annually since the beginning of the century, has been entirely revamped; it now appears four times annually and is a truly remarkable work tool.

In addition to these two big tasks, the I.L.A.E. is engaged in coordinating the activity of the different national societies, and, finally, has set itself the task of making international demographic inquiries, with the collaboration of the WHO and the World Neurological Federation.

(2) As for the needs of the League, they are very great because its resources are modest and its goals, ambitious. In principle, the income of the League is represented by contributions paid by each national society; in practice, the large majority of the national societies do not pay their contributions and the League, therefore, finds itself without income. That is why we have had to separate entirely the treasury of the League from that of *Epilepsia;* the magazine is now the property of Maison Elsevier of Amsterdam, which guarantees all costs and profits, while the League shoulders all of the scientific responsibilities of the undertaking.

It is, by the way, the poverty of the League which has prevented embarking on some of the projects which seem to it, however, the most important ones. I would like to speak of demographic inquiries, focussing on the etiology of epilepsy. Without such inquiries, to be effected on a worldwide basis, it is difficult to find out what epilepsy is and, hence, to treat it; even more so since certain etiologies should be particularly important in the underdeveloped countries which have no national league against epilepsy and to which we would, therefore, like to extend our activities.

If the U.S. Senate could help us to give reality to this work by subsidizing such an inquiry on a worldwide basis, we should be infinitely grateful to it.

Hoping that you will receive this letter and that you received the previous one, and that you will be able to give assistance to our League, please accept, dear Mr. Humphrey, the assurance of my most distinguished sentiments.

Professor HENRI GASTAUT,
Secretary General.

BOCKUS ALUMNI INTERNATIONAL SOCIETY OF GASTROENTEROLOGY,
Detroit, Mich., August 3, 1959.

DEAR SENATOR HUMPHREY: In view of your great interest in matters of health and in international medical research, I should like to take the liberty of calling to your attention an organization of recent formation.

In May 1958, a group of former residents, fellows, students, and associates of Dr. Henry L. Bockus met in Washington, D.C., during the World Congress of Gastroenterology and formed an organization now known officially as the Bockus Alumni International Society of Gastroenterology. Dr. Bockus, the physician in whose honor this society was formed, was presiding at that time as president of the World Congress of Gastroenterology. He is also, at the present time, president of the World Organization of Gastroenterology as well as professor of medicine and chairman of the department of medicine of the Graduate School of Medicine of the University of Pennsylvania.

Because of your keen interest in international medicine, it was thought that you would wish to know of this unique organization dedicated to the furtherance of medical knowledge throughout the world. The Bockus Alumni International Society of Gastroenterology is an active, going organization consisting at this time of 375 dues-paying members drawn from 35 different countries of the world. All of the members of this society have these important things in common: (1) They have been graduate students, residents or research fellows at the University of Pennsylvania Graduate School of Medicine under the aegis of Dr. Henry L. Bockus, an outstandingly great international figure in the field of medicine; (2) all are primarily interested in gastroenterology and nutrition and have received special training in this field; (3) all speak English and are able to communicate easily with each other. These unusual and important bonds between its members make this international society a very closely knit organization capable of calling upon its members for aid in the accumulation of epidemiologic and other important data at almost a moment's notice.

On June 3, 1959, the society held its first scientific meeting in Philadelphia. A copy of this program is enclosed. I should like to point out that there were in attendance at this meeting 110 physicians representing 21 countries in addition to the United States.

At this same meeting in Philadelphia, the society addressed itself to what is considered to be its primary function; namely, the formation and organization of work projects to be engaged in on an international scale by the members of the society. Two topics for study were selected: (1) cancer of the digestive tract; and (2) a statistical evaluation of the incidence of gastrointestinal disorders in various countries of the world. A committee on research was organized and two special subcommittees were appointed to consider ways and means of organizing these study projects. The members of these committees represent several different countries, including the United States.

It may be of interest to point out that one of the most enthusiastic members of this society is Dr. Peter Commanduras, who is also secretary-general of Medico, an organization with which I am certain you are entirely familiar. Indeed, Dr. Commanduras is now serving as chairman of one of the subcommittees created to organize the work project dealing with a statistical evaluation of the incidence of gastrointestinal disorders in various countries of the world. Through him our society proposes to assist in the work of Medico whenever possible.

In addition, the Bockus society intends to cooperate to the fullest extent with the research and organizational committees of the World Organization of Gastroenterology. Not only do we feel a close kinship with the latter but, as noted earlier, Dr. Bockus is currently president of this world organization.

If there is anything further that you might wish to know about the Bockus Alumni International Society of Gastroenterology, its aims, its aspirations and its international facilities, I or some other representative of the society would be happy to come to Washington to discuss these further with you, or with anyone else you may wish to designate.

Respectfully yours,

J. EDWARD BERK, M.D.,
Chairman, Research Committee.

INTERNATIONAL ASSOCIATION OF GERONTOLOGY,
November 9th, 1959.

DEAR SENATOR HUMPHREY: I have received your letter of October 16th referring to the International Medical Cooperation.

I am answering to the questions contained in your memorandum as follows:

1. The International Association of Gerontology is composed of 31 National Gerontological Societies or Groups: 21 from Europe, 4 from North America, 3 from South America, 3 from Asia.

The United States affiliates are the following ones: Gerontological Society, Inc., American Geriatrics Society, Gerontological Research Foundation of America.

The activity of the International Association of Gerontology consists in International Congress which are held every three years. Symposia and Seminars are held in Europe or in North America at different periods of interval and are organized by the single Sections of the International Association of Gerontology (Biological American Research and Medical Research; Clinical Medicine; Social Sciences and Psychology; Social Welfare).

2. I do not believe that all the International Scientific Cooperation has been fully achieved because of lack of financial resources as well as of understanding from public and private institutions in the scientific, social and political field in the different countries.

The International Association has started only in 1958 to collect membership fees which amount to $350 only. Therefore each single Section as well as the Organising Committee of each Congress has to look for financial help from public and private national institutions as well as from international organisations.

Recently the contribution of the International Association of Gerontology to the CIOMS has been increased to $300 which covers almost all the income.

* * *

3. I believe that Medical International Organisation should be differentiated from the Social Sciences Organisation.

With kindest regards,

Prof. ENRICO GREPPI, *President.*

INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC,
Paris, April 28, 1959.

[Translation (French)]

DEAR MR. HUMPHREY. I must thank you with all my heart for your very kind and reassuring reply of April 10, which gave me, personally, the greatest pleasure; for it has confirmed our faith and ardor in the course of health protection of the public by education which we are pursuing on their behalf.

In effect, a few days hence we are going to begin the fourth conference of the international union at Dusseldorf which will be attended by a large number of participants from different countries. I need not tell you that, as soon as the principal papers read at the meeting will have been published, I shall take pleasure in sending them to you.

I am happy to learn that the "International Review of Health Education" was appreciated by you, which represents further encouragement for us.

We have become more and more convinced that through enlightening individuals and groups we will be able not only to raise the level of well-being but also to work toward greater harmony in the world, and, consequently, in the interest of civilization and peace.

We should be happy to have the support of your high authority in our crusade. I know that our American friends would also be greatly honored and reassured by the contacts which you would be having with them.

We are very grateful to you for being willing to review the American programs in view of the exigencies of health education.

In your country you have already made such great progress in health and social affairs that you are a wonderful example for us.

I assure you, dear Mr. Humphrey, of my very respectful sympathies and deep sentiments.

LUCIEN VIBOREL*, *Secretary General.*

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* Deceased.

INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC

INVITATION TO THE FOURTH CONFERENCE

[Translation (French)]

The International Union for Health Education of the Public is going to hold its fourth conference at Duesseldorf, May 2–9, 1959.

Outstanding experts and specialists in various fields such as medicine, hygiene, psychology, pedagogy, sociology, health and social education, are going to meet in order to study, by way of broad exchanges of views and thorough discussions, not merely the general principles, concepts, and methods, as in Rome at the third conference, but the most diversified aspects of a specific and vital problem: "Health Education of Children and Young Adults," a problem which is important, among other things, since it concerns the most valuable resource of the future of the world.

The vivid interest which the Duesseldorf conference has aroused shows that no error was made as to the value of the subjects to be studied there, both in plenary sessions as well as in 20 discussion groups—the role of health education in children's physical, mental and social development, children's health problems in the world of today and tomorrow, the place of health in general education, the role of the youth movements, and the importance of sports and recreation in health education.

The fourth conference is a logical complement of the conference held in Rome, which was a big step forward inasmuch as it gave the promotion of health education the strongest possible impulse and afforded the union a very appreciable expansion.

The conference, organized by the committee on health education of the German federation, will take place in the Congress Building in the wonderful city of Dusseldorf, the metropolis of thought, the arts, and industrial activity overlaid with romanticism by the majestic Rhine, and whose traditions of hospitality are manifested so pleasantly.

The display of technical aids and the selection of films will add to the interest of the study sessions.

Receptions and excursions will round out the stay, at the most pleasant time of the year, with plenty of sunlight, warm temperatures, and flowers.

Doctors, pharmacists, educators, in particular health educators, sociologists, social welfare workers, hospital technicians, and social security representatives—all those whose activities are carried on in the enormously large field of medical, health, pedagogic, and social action, are most cordially invited to participate in the conference, and to contribute the fruit of their ideas and experience to the International Union for Health Education of the Public, which is implementing an effort toward biological harmony and health, to be sure, but also toward civilization and peace.

LUCIEN VIBOREL, *Secretary General.*

INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC

DRAFT PROGRAM OF ACTIVITY FOR THE NATIONAL COMMITTEES

[Translation (French)]

(1) To expand the relations among all national, governmental, and voluntary organizations interested in the health education of the public.

(2) To promote the collective organization of health education of the public through active cooperation.

(3) To promote the establishment and improvement of professional training in health education matters.

(4) To promote, in the field of health education, research and investigations on the ground.

(5) To develop efficacious ways and means for counteracting the nefarious publicity which results in troubling the public, especially as regards the use of certain products.

(6) To inform the young people of the opportunities which the profession of public health officer offers, in order to stimulate the recruitment of public health agents and, in particular, of health educators.

(7) To organize every year a national conference for the study of health education problems.

(8) To participate in regional and international conferences organized by the union.

(9) To make known and to disseminate the "Revue Internationale de l'Education Sanitaire."

(10) To encourage the award of scholarships and the establishment of health education associations.

(11) To assure the liaison of persons exercising health education functions in a given country with those exercising them in other countries.

(12) To emphasize health education with a view to safety and the prevention of accidents in the home, as well as with a view to vaccinations.

(13) To cooperate in the development of health education programs in the schools.

(14) To cooperate in the development and utilization of museums offering exhibits, conceived in a highly lifelike, attractive, and demonstrative manner, relative to health matters.

(15) To participate in the dissemination of information pertaining to health education aids, especially slides and movies.

(16) To promote the employment of expert consultants whenever the need for such consultation is felt, in order to assure the development of health education everywhere.

INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC,
Arlington, Mass., August 14, 1959.

DEAR MR. CAHN: I am sending to you enclosed the statement which you and Senator Muskie were interested in having prepared concerning the International Union for Health Education of the Public.

If you wish further information on any point, or if there is any additional material which I can prepare for you, I shall be happy to place myself at your disposal.

Very truly yours,

C. E. TURNER, Ed. M., Dr. P.H.,
Chief Advisor.

THE INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC AND THE AMERICAN NATIONAL COUNCIL FOR HEALTH EDUCATION OF THE PUBLIC

The International Union for Health Education of the Public is the one international organization in its field which is in official relationship with the World Health Organization. What is the nature of its program internationally and nationally? What is the significance of this program to a country like the United States?

ITS SPHERE OF ACTION

Health education of the public seeks to modify individual behavior, the nature of group action, and the cultural patterns of people with respect to better health practices. It builds what is known about health into more healthful living. It helps people, individually and in groups, to help themselves to better health, through discovering their personal, family, occupational, and community health problems, acquiring essential knowledge and, with appropriate use of consultation and community resources, taking needed action.

The health education of the individual takes place through all those learning experiences which influence his health attitudes, habits, and knowledge. Such experiences begin in infancy and occur throughout life. They occur in the family, the school, the workplace, and in a variety of community activities. These experiences are formulated, organized, or influenced by parents, teachers, members of the medical and allied professions, employers, fellow workers, business and school contacts, as well as by health department and other agencies of government.

Health education differs from its sister health-medical sciences in that its practice is not restricted to a specialized and licensed professional group. There are, to be sure, a few hundred health education specialists in the world, but the responsibility for health education rests also upon every member of the medical and public health professions and upon teachers and educators generally. This fact emphasizes the need for cooperative relationships.

Health education is a social process, intimately related to the culture of the group. For the child it is well advanced under parental tutelage before he enters school. During school years, it takes place in home, school, and community, for better or for worse, from both constructive and destructive health experiences. It is not like the process of learning algebra under the guidance of a single teacher.

Health education for adults also takes place in diverse situations. It is influenced by contact with the medical and allied professions in home, office, clinic, and hospital, by contact with health authorities, welfare organizations, agricultural extension services, and by membership in voluntary health organizations. It takes place at work and in recreation. It is most intensive when the whole community organizes under its natural leadership, with citizen participation, in an intensive effort to solve some health problem, such as eradicating malaria, changing food habits to avoid a deficiency disease, securing vaccination against polio, or reducing accidents.

Clearly, government is concerned with the health education of the public which has become an important activity of both public schools and public health departments. It is equally clear that much of health education takes place outside the activities of government. As Dr. M. E. Candau, Director General of the World Health Organization, has said, "It is fully recognized today that no lasting progress in health work can be achieved without simultaneously undertaking to educate the population in health matters. * * * Here the cooperation of nongovernmental organizations is not only desirable but absolutely essential." [5]

In short, health education takes place through teamwork, through cooperative effort, through agreement upon objectives and through motivation to that end often involving an alteration in group as well as in individual behavior.

Cooperation and teamwork are needed:

1. Because the individual is learning from many persons.

2. Because the health-medical professions, and the voluntary health agencies, as well as government play important parts in shaping health attitudes.

3. Because health education programs need leadership from persons with special knowledge in different fields such as medicine, public health, nutrition, sanitation, recreation, mental health, education, school administration, physical education, sports and athletics, journalism, educational psychology and other social sciences. Only through contact and joint planning can the professions understand each other.

4. Because locally, nationally and internationally the understanding and support of voluntary and professional groups are needed for the most successful operation of official agencies.

THE WORK OF THE UNION

Through its excellent section on Health Education of the Public, the World Health Organization interrelates and strengthens the health education activities of ministries of health. The International Union for Health Education of the Public provides an international liaison in health education among professional and voluntary organizations. It seeks to promote health education throughout the world. It establishes a bond between organizations working in this field. It stimulates activity and facilitates the exchange of information between countries in matters of program, research, training, methods, techniques and materials relating to health education.

The membership of the union consists of voluntary health agencies, professional societies, schools, colleges, universities, museums, foundations, clubs, labor unions, industrial and business groups, and individuals. The headquarters of the union are in Paris. It is governed by an assembly and an executive committee made up of six vice presidents, representing the six geographic regions of the world, and an appropriate number of elected counsellors. It has close and continuing relationships with the Council of International Organizations of Medical Sciences.

The major international activities of the union may be briefly listed:

1. Four international conferences have been held—Paris 1951 and 1953, Rome 1956, and Düsseldorf 1959. The national governments of France, Italy and Germany gave material aid and support in the organization of these conferences. The fifth international conference is scheduled for Philadelphia in 1962. Other

[5] International Journal of Health Education, Vol. 1, No. 1, January 1958.

international organizations in the field of health, both governmental and nongovernmental, are invited to send representatives to these meetings. The recent conferences have each registered 500 to 1,000 participants from over 50 countries. The Düsseldorf conference was held the week before the World Health Organization Assembly in Geneva, at which "Health Education of the Public" was the topic of the technical discussions.

2. The official organ of the union is the *International Journal of Health Education*, which appears quarterly and goes to every ministry of health as well as to its group and individual subscribers which already number over 2,000.

3. The union's Committee on Research is interrelating research activities of health education throughout the world as these are developing in the fields of medicine and public health, education, psychology, anthropology and the other social sciences.

4. The Committee on Professional Preparation for Health Education is working internationally to improve the professional preparation for health education of the many kinds of educators and workers in the health-medical professions who carry on health education activities, and also the professional preparation of health education specialists who organize and direct health education programs in local and national areas.

5. A committee is now being organized to promote the efficacy of health education by means of motion pictures and other audiovisual media.

6. Perhaps the most vital of all the activities of the union is the creation and promotion of national committees for health education of the public. Twenty-four countries have already developed such committees.

NATIONAL COMMITTEES AND WHAT THEY MEAN TO A COUNTRY

If we examine the nature and activities of the national committee in the United States, we shall see something of its value to this country as well as the contribution of national committees to world health. The branch of the union in this country is called the American National Council for Health Education of the Public.

Its more important activities are similar to those of other national committees: (1) multidisciplinary professional meetings; (2) cooperative relationships between government and voluntary agencies; (3) professional education; (4) research and field studies; (5) model programs; (6) interrelationships of health education activities; (7) channeling national thinking into the "International Journal of Health Education"; (8) recruitment of youth for the public health professions; (9) community organization for health education; (10) support for specific health education campaigns; (11) honesty in the advertising of commercial products related to health; (12) international person-to-person relations; (13) participation in the conferences and committee activities of the union; (14) service to health education programs in schools; (15) production and dissemination of health education source materials; (16) the use of consulting service nationally; and (17) the development of policies touching cooperative interrelationships.

A recent statement prepared by the American National Council for Health Education of the Public says:

"Purposes and functions of the American National Council for Health Education of the Public (ANCHEP), as spelled out in its by-laws, are 'to provide a common meeting ground for organizations and individuals interested in the international aspects of health education of the public.'

"ANCHEP serves as 'the representative of non-governmental groups, organizations, individuals, and interests of the United States of America in deliberations of the general assembly of the International Union for Health Education of the Public (IUHEP), and in related activities.'

"ANCHEP has the special purpose, also, 'to facilitate the consideration of health education matters, especially as related to international aspects, from the nongovernmental viewpoint in collaboration with agencies of federal, state, and local government, and with organizations of an international governmental and non-governmental character located in the United States of America.'

"ANCHEP carries out its purposes through meetings, conferences, publications, and other appropriate means.

"ANCHEP is the designated agency in the United States of America through which voluntary agencies; professional personnel in health and education; representatives of industry, labor, business groups, trade and industrial associations; foundations; civic groups; museums; schools; and colleges can come together to

be represented in world health education councils (IUHEP), and to discuss basic policies and practical plans for health education on the international level, and the place of the United States in international health education developments.

"A broad cooperative approach to health education of the public—a process which ANCHEP uniquely facilitates—promotes better understanding, cooperative planning and broader, better balanced, more constructive activities in health education. In health and in health education, many of the common problems in the United States are common problems in other nations. It appears difficult to conceive of any major movement for human betterment on the world scene in which the United States of America should not play a significant role in keeping with our heritage and our responsibilities in the world community * * * and through ANCHEP and IUHEP it is both our right and our privilege as Americans to accept the challenge."

The council's primary value to the country lies in strengthening health education through the joint thinking and cooperative planning of voluntary agencies, professional groups, labor, industry, and education. The health education activities which it strengthens reduce disease and accidents, increase national vigor, bring citizen appreciation of what government is doing, reduce governmental costs through the use of voluntary effort in the health field, and contribute to the national economy both through reducing the cost of sickness and disability and through increasing the physical vigor of the people. Intelligent health behavior strengthens the individual, the family and the community. It reduces the need for health services, leads to the wiser use of scientific medicine, replaces the violation of health regulations with cooperative adherence, and develops voluntary individual and group action for the solution of many health problems.

Ample opportunity for financial saving through health education is to be found in our estimated national loss due to illness of 10 billion dollars,[6] and our estimated national accident cost of 12 billion dollars.[7] Hanlon [6] cites the experience of a single life insurance company which spent 20 billion dollars over a 17-year period on health education, early diagnosis and nursing service, resulting in an estimated saving of 43 million dollars to the company and its policyholders, based upon the fact that the reduction of the death rate for policyholders was more than twice that which occurred in the general population.

In terms of human life, health and happiness, health education reaches into many areas. The prevention of poliomyelitis and many other diseases is now a matter of educating the public to use available immunization. The prevention of accidents, drug addiction and alcoholism rests heavily upon education. So also does the wise use of scientific medicine and dentistry.

An estimated 15 percent of the total money spent for health care is spent for nostrums,[8] and this country spends as much for the services of cultists as for public health.[6]

Health education reaches into those positive areas of life involving human efficiency, activity, rest, body mechanics, nutrition, family life, improved recreation and mental health.

As we have said, health education is a social process which requires a team approach. National committees of the union help to bring together and strengthen the team.

There is a secondary value to the country through improved international relations. Person-to-person relationships and international understanding are strengthened through cooperation in this area of universal concern for human welfare devoid of ideological conflict.

The following recent statement (February 1959) of the American National Council for Health Education of the Public points up these considerations:

"CHALLENGES AND GOALS FOR NATIONAL AND INTERNATIONAL HEALTH EDUCATION

"Day by day the sciences of health press forward, producing more and more vital knowledge. Daily the necessity increases to effectively organize services and facilities and programs to make possible the application of scientific knowledge to health needs. Regrettably, however, we are not applying our emerging knowledge (nor all of our existing knowledge) to the full benefit of the health of even the fortunately situated American people, not to mention the millions in other lands. Day by day it becomes more important to reduce the gap between what we know and what we do.

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[6] Hanlon, J. J.: Principles of Public Health Administration, St. Louis, 1957, The C. V. Mosby Company.
[7] National Safety Council, Accident Facts, Chicago, 1959.
[8] Southworth & Davis: Meredith's Science of Health, New York, 1957, McGraw-Hill.

"This is a primary task of health education * * * to help individuals, families, communities effectively make use of the fruits of scientific study for the health and welfare of all the public.

"As a World Health Organization document points out, the selection of health education for the 1959 Technical Discussions of the 12th World Health Assembly emphasized 'the existence of a wide gap between scientific research findings in health and their practical application to the daily practices of people. To help bridge this gap so that people, through their own actions, may achieve the level of health that science makes possible, extensive and effective health education is needed.'

"Each of us, as an aware human being, recognizes our deep personal stake in the success of efforts to narrow this gap. In our particular ways, each of us acts on this recognition. Individually and in our family and community contexts we seek to inform ourselves, to behave healthfully and safely, to obtain care and services appropriate to our needs and understandings.

"Many of us see other aspects through vocational or avocational roles. The health professional, of course, deeply feels the issue to be his own. The educator, at every level, actively acknowledges the implications and challenges for the school and for the student. From other, and eminently valid, perspectives these tasks are seen by the businessman and the labor leader as of direct and practical concern, whether in terms of a product of health or sanitary or safety significance, or of the welfare of employees or coworkers. And other community and national leaders view these issues of health and education from still different perspectives. This is altogether proper—in fact, essential—for health is a 'many-splendored thing.'

"Action toward bridging the gap between what we know and what we do is constantly being taken by many organizations of many types, in many ways, and at many levels. Varied approaches are essential and should be encouraged. Nevertheless, as a nation, America is not making the overall headway that the realities of life and death require of us in this ever-changing world.

"It may be submitted, therefore, that more extensive and intensive, more imaginative and understanding, more helpful and more responsible health education efforts are urgently necessary with every segment of American life. And health, of course, is one matter that cannot be confined by national boundaries. Especially in health education there is much we can learn from our colleagues overseas, even as there is much in our own experience we can constructively share—at the same time enjoying the added benefit of increasing our understanding of each other as individuals and as peoples, certainly a basic essential for peace.

"To these ends, the American National Council for Health Education of the Public is dedicated."

INTERNATIONAL HOSPITAL FEDERATION,
London, England, June 26, 1959.

DEAR SENATOR HUMPHREY: Your very interesting letter of April 7 addressed to Capt. J. E. Stone has now been considered by the Council of Management of the International Hospital Federation. The council is most appreciative of this opportunity to express to you its views on the various matters under consideration by your subcommittee. The purpose of the International Hospital Federation is to advance hospital standards throughout the world. The questions set forth in your letter are of the utmost importance to everyone interested in health affairs. Your personal interest and leadership and that of your colleagues on the subcommittee of the United States Senate is inspiring and should do much to advance further our common objective of a state of good health which we desire for all mankind.

The views of the council on the questions you raise are herewith set out in the order in which you presented them.

What are the highest priority needs for strengthening hospital standards throughout the world, particularly in underdeveloped areas?—There seems to be ample evidence of the need for much more extensive advice in the planning and development of health facilities so they may conform to the particular conditions and circumstances in an individual country. An extensive revamping of existing facilities with adequate consultation and advice could prove to be immediately effective in many areas.

An essential to the functioning of hospitals is the availability of adequate numbers of trained personnel covering all aspects of hospital operation. At present there exists a serious lack of trained personnel in hospitals in many parts of the world.

The underfinancing of hospital facilities is a most serious problem. Good hospitals with adequate standards of care are costly to operate. In most sections of the world funds for the operation of hospitals and all health facilities are largely provided by government and often are inadequate to meet even minimal needs. In countries that are in strained financial difficulties, it becomes difficult, if not impossible, for government to allocate to hospitals and health purposes funds which would be adequate because of the total needs facing their economies. It is felt that more might be done in some countries to stimulate private initiative in meeting health needs through the development of voluntary organizations.

There is a great need to develop and implement programs setting forth desirable standards by which to measure the quality of care rendered in hospitals. It is believed that there is little likelihood of progress without some basic goals towards which effort may be exerted. This becomes a major area for example and leadership on the part of the medical profession, supported by all groups interested in good hospital care.

In order to succeed in their efforts, hospitals must gain, retain, and foster public understanding and support. In many sections of the world the hospital must serve as the prime example of suitable environment conducive to good health. The hospital is thus truly the center of health affairs from which programs of public information and education may emanate. To be successful in this role, however, hospitals must have the understanding and genuine support of the leadership of all segments of community life. However, it may be observed that one example of great difficulty is the existence of facilities which have resulted from individuals coming from relatively underdeveloped countries to study hospital facilities in various parts of the world that are in a very advanced stage in hospital care and attempting their duplication in such underdeveloped areas. Such facilities are beyond the ability of underdeveloped countries to finance, operate, and maintain, thus resulting in great frustration.

Another essential to the development of good hospitals is a medical profession that is adamant in its belief in the essentiality of good hospitals, and that possesses a genuine devotion to the needs of the community for good hospitals with adequate standards. This must come from the medical profession's understanding as to the inseparable relationship which good hospital care has to good medical care; to the practice of the individual physician; and to the overall health of the community. It is unlikely that good hospital care can ever develop without vigorous leadership from the medical profession. Without such example by physicians, other essential elements of the community will remain unmoved.

What are the principal obstacles to interhospital cooperation?—In many countries of the world, agencies and organizations through which hospitals might band together to share experiences and knowledge and to confront similar problems are nonexistent. In some instances this may result from a lack of basic understanding of the values inherent in working together. In other countries there is a lack of financing to make possible such organization. Often, where government controls hospital budgets, they have not seen the value of providing financing for independent thinking and action essential in an association. Also lacking is a focal point of knowledge as to an individual hospital's development. Without administrative responsibility centered in individuals, it is difficult, if not impossible, to profit by interhospital cooperation. In other sections of the world great advances have been made in interhospital cooperation, and there are ample good examples to be followed.

One other major obstacle is the existence of part-time administration in many hospitals. The individual administrator of necessity must engage in a variety of pursuits which in toto must provide a living for himself and his family. Such situations are not conducive to the individual devoting time and energy working for the common good of all hospitals through intra and extra mural interests.

What are the programs of the United States Government which are regarded as most conducive to improved hospitals throughout the world?—It is believed that the programs of the International Cooperation Administration (ICA) have done much already and provide an area of great promise for the future. This administration, through grants and technical assistance programs, traineeships, development of programs particularly devoted to hospital needs through the USOM missions in various countries, and development loans have contributed importantly to improvement of hospitals in various parts of the world.

The contractual relationship which ICA has established with the American Hospital Association can, we believe, become one of the most important means for advancing hospital standards and development in various parts of the world. Such a contractual relationship can be the means for bringing vast amounts of knowledge and experience to areas of the world where it is greatly needed. This relationship, though it has, we understand, thus far been developed only to a very limited extent, would seem to provide an ideal vehicle for the Government of the United States to make available the resources and knowledge of that country within the field of hospital care in a most economical manner.

The Pan American Health Organization, as the regional branch of WHO in the Latin American countries, has through the years, in addition to its major role of public health, been of assistance to limited programs directed towards the improvement of hospital operation.

For several years we have felt that it would be of importance in advancing hospital standards throughout the world for WHO to develop a primary interest with qualified staff devoted to this purpose within the WHO. Thus, WHO would develop an interest in hospitals and hospital standards as they have for public health matters generally. There have been several examples of WHO sponsorship of individual consultants to various countries for short-term consultation. The sponsorship of the school in hospital administration recently set up in Edinburgh, Scotland, should also prove of benefit.

Undoubtedly the hospitals which have been operated by the Armed Forces of the United States in many parts of the world have proven to be of great help, not only in terms of the care rendered, but by the example which they furnish. Many of these hospitals have aided materially in important research work in the health field.

The work of the International Division of the U.S. Public Health Service has also contributed importantly. The recruitment program of this agency, through which individuals from various countries are taken to the United States for periods of observation and training, is of value. The possibilities which have been suggested for sponsorship, under the auspices of the Public Health Service, of missions from the United States to foreign countries would seem to provide real opportunities for the United States to make available observers and consultants with particular knowledge and experience in hospital affairs in areas where they are greatly needed. Undoubtedly, too, the observations of the consultants participating in such missions would be of value to the United States.

Conversely, how can the United States Government strengthen its aid programs?—It is believed that the United States Government could materially strengthen its programs of interest and aid in a number of ways. It would be important for the Government to more fully develop relationships with hospital organizations in those countries where they exist. This could be approached most directly perhaps through such organizations as the International Hospital Federation and the American Hospital Association. Through such relationships, the stimulation which is so greatly needed in order to develop national hospital organizations in other countries throughout the world could be provided.

It is also believed that much good would result from placing greater emphasis upon hospitals and hospital operation within the individual USOM mission, making it a responsibility of each mission to plan and assist in meeting hospital needs more fully in each country.

A much more extensive program for training of vitally needed personnel can be developed. It might be advisable to establish a clearing house in Washington for the screening of such essential personnel; for planning of itineraries; and for stimulating the development of educational programs particularly directed at the needs of these individuals. It would be advantageous for selected individuals from the United States to go abroad to conduct specific training programs which could reach greater numbers of hospital personnel. Such an approach might be particularly effective with respect to the various department heads of hospitals. These programs could combine essential academic work and actual demonstrations. It may be essential in certain instances to provide the basic equipment needed for teaching and demonstration.

Special consultative talents in the fields of hospital planning, architecture and engineering are greatly needed and could be made available on an organized basis.

At present, there is a void with respect to the availability of texts devoted to departmental operation of hospitals. Due to the work of the American Hospital Association and funds made available by the Kellogg Foundation and ICA,

several such texts have been translated and are now available in Spanish. There are one or two other examples of translation of texts from English into other languages. It is understood that work is continuing in this direction and that several others will be available in future months. The availability of similar materials in translated form in other parts of the world would prove to be equally beneficial.

A need also exists for an increased body of literature dealing with hospitals and their operation, particularly to stimulate individuals throughout the world who are striving to keep abreast of changes and progress being made. The distribution of a periodic translated digest of the most important writings in the field would be of inestimable value.

There are undoubtedly many essential activities which would receive great stimulation from the availability of loan funds which could be utilized to carry out the numerous projects mentioned above. This might well be particularly true with respect to changes and revamping of existing facilities and construction of new facilities as studies may indicate their need.

Though we have mentioned personnel previously in this letter, we should like, in connection with this particular question, to express the belief that your Government could do much to stimulate an exchange program of hospital personnel from the United States to other countries on a much larger scale than has been made possible to date.

Cooperative education programs could be stimulated by your Government with the help of organizations particularly knowledgeable in the hospital field. These programs might be on a short-term seminar basis or developed as more extensive formal academic programs.

In terms of the efforts of the medical profession to support standards for quality of patient care, much could be done by your Government in assisting projects whereby qualified individuals, working with groups in various countries, could develop programs of standards and assist in the organization and implementation of the standards, as well as to provide a periodic evaluation and followthrough. Such cooperative efforts could also be directed toward the development of educational programs and materials.

It is realized of course that all of the above efforts which would be pointed directly at the improvement of hospitals and their functioning would be affected by numerous other efforts in which your Government is participating and which affect directly the ability of other countries to provide for the total health and welfare of their citizens.

What types of research would be most helpful toward meeting urgent hospital needs?—We are greatly impressed by the hope and encouragement engendered by the new proposal to establish an international health research center in your country in which endeavor you have played such a prominent part. The intelligent use of funds and materials, as well as the energies of all these persons whose talents are recruited in a total hospital program, would depend in no small measure upon there being sensible study, research and planning.

Just as research in terms of the various diseases has brought great benefits to mankind, so now in many countries do we need to give real emphasis to research dealing with planning, organization, management, and functioning of hospitals. The construction of hospital facilities is so costly that it demands study and planning of the highest degree. Research as to the kinds of health facilities needed and the organization of health services and their relationship to such facilities is essential.

A full answer to the question you ask would, in and of itself, require some extensive study and documentation. We would emphasize that such thought, research and study should be given to the hospital problems in any country before extensive programs are undertaken and funds expended on any basis. A considerable amount of study has been going on, not only in the United States but in other parts of the world, which should provide a useful basis for the future.

The council feels that the above is at best an inadequate answer to the very thoughtful and important questions which you have posed. We, the undersigned, plan to be in the United States attending the annual meeting of the American Hospital Association in New York City during the latter part of August. Perhaps at that time, if it proved possible for you to do so, we could arrange to meet with you and discuss this whole subject in greater detail.

Very sincerely yours,

R. De Cock, M.D., *President.*
J. E. Stone,
Honorary Secretary and Treasurer.

INTERNATIONAL ACADEMY OF LEGAL MEDICINE
AND OF SOCIAL MEDICINE,
Genoa, December 30, 1958.

DEAR MR. HUMPHREY: We are very glad for your invitation to a very close work between your subcommittee and our organization.

We will be very pleased to do whatever it is possible to realize your programme. Wishing you to have a better knowledge of the objectives of our ogranization, I send you the constitution and a short story of the International Academy of Legal and of Social Medicine, and the report of the last congress which has been held in Genoa in 1955. I moreover advise you that at the next congress will be explored the problem: international legal medicine.

Waiting for your further communication, accept my best regards and compliments.

Yours sincerely,

PROF. GIACOMO CANEPA, *Secretary General.*

CONSTITUTION

Art. 1. An International Academy of Forensic and Social Medicine was created in 1938. It is composed of Titular Members and Associates elected by the Academy from qualified scientific personalities in the fields of Forensic Medicine (including Judicial Psychology), Social Medicine, Industrial Medicine and Criminology (including Toxicology). Only Titular Members are entitled to vote.

Art. 2. The aim of the Academy is to foster international scientific cooperation in the various branches of its activities. Two of its main objects are the organisation, in principle every three years, of an International Congress, and the publication of a scientific periodical, the official organ of the Academy.

On the decision of the Praesidium, the Academy may also hold Plenary Conferences.

Art. 3. The Academy is governed by a Praesidium consisting of the Presidential Committee and the Honorary Presidents. The President of the Academy, three Vice-Presidents, the Secretary General, the Secretary General in charge of the publication of the periodical, (the official organ of the Academy) and the Treasurer. The President represents the Academy and he signs the correspondence eventually with the Secretary General, or the Treasurer according to circumstances. At the end of their mandate the Presidents of the Academy assume the title of Honorary President of the Academy. They are entitled to vote in the Praesidium.

Art. 4. The Presidential Committee is elected at the beginning of each Congress of the Academy, for a term of three years commencing immediately on this election; after which term its members cannot be immediately reelected. Only the Secretary General in charge of the direction of the Periodical, official organ of the Academy, may continue in office for an unrestricted period.

The members of the Presidential Committee stay in office until their respective successors are installed.

Art. 5. The Presidential Committee appoints, in each country, from among the titular members of that country, and as far as possible on the written proposal of the majority of them, a National Correspondent whose duty it is to maintain a permanent liaison between the Presidential Committee of the Academy and the members of the country concerned.

Art. 6. In turn, the various countries represented in the Academy are chosen as the site for the Congress of the Academy, the decision being made at a Plenary Session held at the end of every Congress or Plenary Conference.

In case of an equal vote in favour of two or more countries, priority is granted according to the alphabetical order of the countries' names in the French language.

The date of the Congress is determined by the Praesidium, in agreement with the National Correspondent of the country where it is to be held.

One year at least before that date, that National Correspondent will, after consulting those Members of the Academy belonging to the country selected as the place for the Congress, propose the name of the President of the Congress to the President of the Academy. Within the month following the proposal, the Praesidium will, by a majority vote, elect the President of the Congress; the President of the Academy will inform him without delay of his election. The President of the Congress chooses the other members of the Executive Committee and submits the list of names to the President of the Academy for approval.

Should it happen that its President has not been nominated in due time, it will devolve upon the Praesidium of the Academy to make choice, if required, of another country, a date and a President for subject Congress.

Art. 7. The countries who are members of the United Nations Organisation, as well as those admitted by the Plenary Assembly of the Academy, are entitled to be represented in the Academy and to take part in its Congresses.

Each of these countries is entitled to a maximum of five titular members and five associates if it counts on its metropolitan territory a number from 100 to 1,000 practising physicians; to ten titular members and ten associates if it so counts between 1,000 to 4,000 practising physicians; to twenty titular members and twenty associates if it counts 4,000 to 10,000 practising physicians, and to thirty titular members and thirty associates should it count more than 10,000 practising physicians.

The National Correspondents are responsible in their respective countries for the implementation of this clause.

"Those titular members being members of the Academy for at least ten years may be elected to emeritus membership. The number of emeritus members is not limited. Emeritus members are not entitled to vote and are not eligible to the Praesidium."

Art. 8. The official organ of the Academy is entitled "Acta Medicinae Legalis et Socialis" and as a subtitle in both French and English "Official Organ of the International Academy of Legal and Social Medicine." This periodical is published under the direction of the Presidential Committee and under the direction of the Secretary General appointed to that end. A special bylaw appended to the present Constitution determines the mode of publication of this periodical. The cover bears only the title and subtitles.

The interior title page bears the names of the members of the acting Praesidium as well as the addresses of the Secretary General and the Treasurer. The names of Honorary Presidents figure ad perpetuum on this list.

Art. 9. The amount of the annual fee for Titular Members and Associates is determined by the Plenary Assembly of the Academy held on the occasion of every Congress or Conference of the Academy.

This fee will include the cost of the subscription to the periodical, official organ of the Academy.

Art. 10. The permanent official languages of the Academy are English and French. For lectures and discussions at the Congresses and Conferences of the Academy, use can also be made of the official language of the country or district where the Congress is held.

The publication of the reports presented at the Congresses and Conferences of the Academy can be made in the original language, provided that the author would include with this text a summary thereof in English and French or in one of these two languages if the text is made in the other one.

Those original articles which have not appeared on the programme of one of these Congresses or Conferences can only be published in English or French; they must be accompanied with a summary written by the author in the other one of these languages.

Art. 11. The present Constitution may only be modified by a Plenary Assembly in which a minimum of two-thirds of the National Correspondents are present or represented by duly accredited substitutes; a two-thirds majority is required, the President having the casting vote. The Assembly may be called together either at the initiative of the Praesidium or at the written request of at least five National Correspondents.

THE INTERNATIONAL LEPROSY ASSOCIATION,
London, 16th January, 1959.

SIR: Reference your letter of October 27th, 1958, addressed to Dr. E. Muir as General Secretary-Treasurer of the International Leprosy Association, I have to inform you that Dr. Muir has retired from this post and I have been appointed in his place, since November 19th, 1958.

I have pleasure in replying to your letter. I must first say something about the International Leprosy Association. This is a private international association whose members are active leprologists anywhere in the world, or scientists in other branches of medicine who have found that an interest in leprosy and research in leprosy help their own work. The ILA also publishes the "International Journal of Leprosy," and organizes an International Congress of Lep-

rology every five years (preferably, but sometimes there is a longer interval) in some country where the government has offered to be host. The last congress was the seventh and was held in Tokyo, Japan, in November 1958. The membership of the ILA contains many workers who are employed in research by the USA or other governments. The ILA itself stimulates and records worldwide medical research in leprosy and cooperates with any body which is concerned to attack the leprosy problem. The whole idea of this matter will be best understood by a perusal of the January "Leprosy Review," which records the seventh international congress quite fully (I send separately two copies of this, and further copies are available on request). Copies of the "International Journal of Leprosy" can be obtained from the publication office in Washington, 1832 M Street, N.W., Washington 6.

The present position in leprosy in the world may be stated as follows. There are estimated to be 10 million persons in the world who suffer from leprosy. This is a moderate estimate; some think that 15 million would be a truer estimate. Most of the leprosy prevalence today is in the poorer or less developed countries. There are drugs available nowadays which can cure leprosy, and new drugs are coming forward in good number for trial. The general tendency in all countries is to apply these drugs widely, not only in leprosy hospitals, but in a chain of dispensaries, or by mobile teams who take the treatment to patients in their own villages and their own homes. Thus, in North Nigeria, 150,000 patients have been brought under treatment, or in French Africa something near 400,000. It has also been discovered that the care of leprosy outpatients can safely be entrusted to educated persons of the country, who are not doctors, but who have been specially trained in leprosy work and who are supervised in the field by visiting doctors.

It will be understood that several countries have so much leprosy and such a low general income that they cannot tackle their leprosy as they would like. An example is Sierra Leone, where a recent survey indicates 85,000 cases of leprosy, and where there is a trade recession! Assistance to such a country would just hit the spot. WHO and UNICEF are considering aid, and any aid "without strings" to such a country is still urgently needed. There is never any trouble about duplication of aid in leprosy relief in most of the "have not" countries. For example, the British Leprosy Relief Association sends workers; WHO sends workers; UNICEF sends drugs and vehicles, and still there is room for further aid.

The truth is, the world leprosy task is so huge. I doubt if we have succeeded in bringing under treatment more than 1 in 10 of the world leprosy patients, even though we have an effective drug with which to treat them, and research is turning up even better drugs.

Suggestions of how to help the world leprosy problem:

1. Subvention to the "International Journal of Leprosy," so it can spread knowledge, freed from its present phase of financial anxiety.

2. Travelling fellowships to young doctors and other scientists interested in leprosy, to visit leprosy workers, leprosy countries, leprosy research centres, universities, etc.

3. Subvention to existing leprosy research laboratories, e.g., Uzuakoli Research Unit, Eastern Nigeria; East African Leprosy Research Centre, Itesio, Kenya; Sungei Buloh Research Centre, Malaya; Leprosy Research Dept., School of Tropical Medicine, Calcutta; Leprosy Research Laboratories, Culion Sanitarium, Palawan, Philippines; etc.

4. Aid in personnel and money to establish training centres for training educated nationals of high leprosy incidence countries, so that they can be used in comprehensive campaigns.

5. Establishment of a professorship in leprosy in a suitable university in a country which has leprosy.

6. Direct aid of all types (personnel, finance, equipment) to countries which are "up against it," and this aid with as few "strings" as possible: e.g., if there are no houses for staff, do not sit back and demand that the government helped should build them first—ask for sites, take the materials and men and build yourselves.

7. Get away from the idea that a drug used in a leprosy campaign must be the cheapest available. If research turns up a new drug which is more effective, takes less time to cure, and is less toxic, a subvention should be given to allow that drug to be used. It will pay off in a more rapid eradication of leprosy.

8. The work of the WHO in leprosy has been growing in recent years and its achievements have been considerable. They and UNICEF have taken a large part in successful leprosy campaigns in many countries, e.g. Thailand, Ceylon, Nigeria, Ghana. They have recently appointed a chief medical officer for leprosy in their division of communicable diseases. He is Dr. J. Gay Prieto, Palais des Nations, Geneva.

9. The work of Christian missions was the pioneer work in leprosy and still remains a very great part of the world effort in leprosy. However, no mission or religious body alone is able to tackle the huge problem which exists.

10. Cooperation between all bodies dealing with leprosy is absolutely essential. To this date, cooperation has been very good.

11. I have begun to think that the time has come to press for the creation of a world leprosy service, perhaps centred in WHO.

12. The modern position of leprosy knowledge is that for the first time in history we possess effective drugs, as well as surgical repair operations for leprosy and its deformities. Rehabilitation has become an important section of our work. The drugs we already have are so reliable that we can talk about "cure," and we can use these drugs as a means of stamping out leprosy, if we apply them widely enough. Modern research is turning up new drugs which promise to be even speedier and surer than the ones we have. The huge leprosy incidence in the world could be reduced to negligible proportions if we applied the knowledge we have on a wide scale in every country. The modern world is out of balance, in that so far we have failed to organize ourselves for such a comprehensive task, while we press on instead with space exploration. Do we wish to reach and colonize some distant planet, coming from a world which still has leprosy?

I submit the above reflections in the hope that they will be helpful in your deliberations. I send my good wishes for the success of your work. I shall be glad to answer any further questions.

Sincerely yours,

JAMES ROSS INNES, M.D., *Secretary-Treasurer.*

INTERNATIONAL COMMITTEE ON MILITARY MEDICINE AND PHARMACY,
Liège, Belgium, January 17, 1960.

[Translation (French)]

MR. CHAIRMAN: We have examined with great interest the documents which you were so kind as to send us, especially those relative to "reorganization" and "international organizations."

It is true that military medicine is playing a more and more considerable role at the international level, and I am sending you herewith a brief memorandum on the subject, as requested in your letter of October 16, 1959.

I am availing myself of this opportunity to let you know that the XVIth International Congress on Military Medicine and Pharmacy will be held April 25–May 1, 1960, at Teheran, Iran. You will find an invitation enclosed herewith. We should be greatly honored if you would consider to attend it.

Please accept, Mr. Chairman, the expression of our very distinguished sentiments.

GENERAL J. VONCKEN, M.D., *Secretary General.*

THE ROLE OF MILITARY MEDICINE IN THE WORLD

[Translation (French)]

The organization of medicine in the armies, called for in all countries of the world on the same level and with identical purposes, gives this medical specialty a cohesion and an efficiency rarely attained at the international level: The International Committee on Military Medicine and Pharmacy, which was established in 1921 and which now has a membership of 60 countries, was, furthermore, in 1952 recognized by the World Health Organization as an intergovernmental organization.

Its purposes are clearly defined in Article One of its statutes, an extract of which follows:

"* * * Its purpose is, in the spirit of The Geneva Conventions, to maintain and make closer the bonds of a constant professional collaboration among

those men whose mission all over the world is to care for the sick and wounded members of the armed forces and to work, by virtue thereof, toward improving their fate and alleviating their suffering in times of peace as well as in times of war. * * *"

Since its establishment, the international committee has held 17 congresses and 21 workshops. Quite recently it organized, with great success owing to the collaboration of the health services of the Swiss Army, the first International Refresher Course for Young Military Physicians.

The military medical profession presents a polyvalence which should be emphasized. In effect, it is this polyvalence which has endowed it in all countries of the world with social value and progress potential owing to its vast sphere of action whose elements may be compared on a state-by-state basis. We shall briefly touch upon its broad outlines.

In all countries of the world the position of the military physician is identical in regard to his nation. It is in the hands of the military physician that the country restores to health the élite of its youth, the men who will have to defend it; the armed services. It is he who wards off everything that could harm them physically and morally. The health of these men is entrusted to his intelligence, his knowledge, his encouragement. It is he who must watch over it, who must protect it. It is on the health of this army that its preparedness, its dash, its striking power will depend.

These men are surrendered to the armed forces at an age when they are barely full-grown, at the age at which the weaknesses, shortcomings, and physical defects begin to crop out; they have different backgrounds, different schooling, different physical resistance. And yet, the military training will be the same for all of them.

In all countries of the world, this problem is posed identically. And it is in identical form that the military physician must properly supervise the training of the recruits so as to avert any possible organical defects.

Changes have been brought about in the way of life of these adolescent soldiers. They live a communal life in barracks and in camps; the causes of disease and infection are numerous—the causes of contagion, multiplied.

It is up to the military physician to do everything to keep going the defense mechanism of these young bodies; to track down the epidemic as of its initial symptom; to put into effect all measures with the necessary rigorous discipline which they entail.

And when a disease breaks out, the responsibility for care is his in case of intervention; it is up to him to take decisions of an operative nature; and it is up to him to give the go-ahead sign when surgery is needed.

He also has to worry about the spiritual life of these young people; his counseling, his moral teachings, and the hold that he has on his soldiers keep them safe and put them on guard against those diseases which have such a profound effect on a race—the venereal diseases.

Furthermore, due to the place of importance which it occupies in the economy of a nation, military medicine with everything that it stands for, with its possibilities for development, and the abundant resources that it may offer must be made the object of special attention at this time when large-scale, structural reforms command attention in many fields of endeavor.

Great historic examples prove that, spurred on by noble-minded persons, military medicine has produced first-rate scholars in certain countries. Let us mention, in passing and for the past century, Villenin, Laveran, and Vincent, who were products of Val-de-Grace, Leishman, Royal College of Military Medicine, Gorgas, U.S. Public Health Service.

Military medicine has excelled in every field of research and we find a multitude of examples. In our modern age when international collaboration in the fight for health is proving ever closer, the contribution of the military physician must be given its true worth in peacetime. Parallel activities of military physicians in all countries help to solve the big problems of social medicine, hygiene, and pathology, inherent to an identical group of the human society—young people in their early twenties. In Spain a rather pleasant term has been devised for defining this sector of the human pathology, as an antonym for the term gerontology or geriatrics: i.e., "ephebology" or "ephebiatrics."

If this specialized field of medicine exists, it offers the military physicians the broadest testing ground, and all problems inherent in the development of the adolescent, his troubles, his lack of adjustment, can be pursued by comparative studies in the different countries of the world.

In wartime, as the army physician remains removed from the actual front-line fighting, he maintains, owing to his essentially humanitarian avocation, that which is the finest in the civilization of man—the "inter arma caritas" of the Red Cross, and the respect and pity for the victims of the wars and for every suffering being.

It is for this dual reason that the military physician should have a special place in international collaboration among peoples and particularly in the activities of big international organizations, to which Senator Hubert H. Humphrey has made such an outstanding contribution, for the benefit of mankind.

GENERAL J. VONCKEN, M.D., *Secretary General.*

INTERNATIONAL COMMITTEE ON MILITARY MEDICINE AND PHARMACY,
Liége, January 17, 1960.

[Translation (French)]

Mr. CHAIRMAN: We have the honor to bring to your attention that the XVIth International Congress on Military Medicine and Pharmacy will be held April 25–May 1, 1960, at Teheran, Iran. The agenda is set out below:

AGENDA

1. Wartime evacuation by air and on the high seas.
2. Principles of standardization of surgical first aid in wartime.
3. Prophylaxis of virus diseases in the armed forces.
4. Immediate care of the wounded with maxillofacial injuries.
5. Drafting of an abbreviated pharmaceutical formulary with a view to standardization.
6. The role of the administration officer in the health service structure.

On behalf of the International Committee on Military Medicine and Pharmacy, we cordially invite you to attend this congress.

Please accept, Mr. Chairman, the expression of our sentiments of high consideration.

GENERAL J. VONCKEN, M.D., *Secretary General.*

MEMORANDUM ON WORLD FEDERATION OF NEUROLOGY

Senator HUMPHREY. As was pointed out earlier, a highly significant development relates to pioneering work by the World Federation of Neurology in strengthening research collaboration between scientists of the various nations.

The National Institute of Neurological Diseases and Blindness has long recognized the vital role which can be played by an international professional organization of this nature. NINDB evidenced its awareness by an initial grant of $126,190 to the Federation for each of 4 years, starting January 1, 1959.

Prior to the grant and from the very outset of the subcommittee's work, we were in contact with the distinguished president of WFN, Dr. Ludo Van Bogaert. Our project director visited with him in Antwerp in October 1958 and received thereafter from Dr. Van Bogaert a most helpful memorandum summarizing the status of neurological efforts, not only in Europe, but elsewhere in the world (outside the United States). Dr. Van Bogaert has long been both active and productive in a broad gamut of neurological fields, including comparative neuropathology, not to mention other specialties.

In view of the significant series of grants made by NINDB to the WFN I asked Dr. Pierce Bailey, the distinguished past Director of NINDB, to prepare for the subcommittee a statement as to the grants. Dr. Bailey prepared the helpful material which follows.

I personally believe that Dr. Van Bogaert, Dr. Bailey, and their associates are to be commended for effective implementing of this significant new-type effort on the part of an international professional organization.

March 21, 1960.

THE WORLD FEDERATION OF NEUROLOGY

ORIGIN, AIMS, ACCOMPLISHMENTS AND SIGNIFICANCE TE THE UNITED STATES

By Pearce Bailey, Ph. D., M.D., Secretary-Treasurer General

ORIGIN

The World Federation of Neurology (WFN) was founded during the First International Congress of Neurological Sciences held in Brussels in July 22 to 27, 1957. Its secretariat or headquarters is in the Institut Bunge, 59 rue Philippe Williot, Berchem-Antwerp, Belgium.

The WFN is a federation of national (professional) neurological societies from over 44 countries throughout the world. It is governed by a body of duly elected officers [9] and an executive committee of nationally self-determined delegates (one delegate from the member society or societies of each country).

WFN policies and affairs are determined and conducted in terms of its constitution and bylaws that were formulated and passed by its officers and the executive committee. The cost of its routine office administration is met by the payment of annual dues received from members of the federation's constituent national societies.

While the WFN is a nongovernmental organization, it has established an official relationship with the World Health Organization and collaborates with other governmental and nongovernmental international bodies having a basic philosophy similar to its own. The WFN, to the best of its knowledge, is not in competition with any other medical research organization.

Early Phases.—As previously implied, the concept for the development of a federation of national neurological societies throughout the world was a spontaneous byproduct of the Brussels International Congress of Neurological Sciences. This congress was the first combined congress of neurology and neurologic science ever to be held.

The primary objective of the 1957 Brussels congress was to narrow the prevailing gap in scientific communication and exchange between the several basic and clinical disciplines directed to a research attack on diseases of the brain and nervous system. Successful as the Brussels congress was in the attainment of its primary objective, it was nevertheless obvious to the national delegates present at the congress that much more would have to be done if an effective degree of international collaboration in neurological research were to be attained.

The organization of combined interdisciplinary congresses such as the Brussels congress every 4 years was important but further action was necessary.

What was required was a world federation with a permanent secretariat and a competent scientific and administrative staff. Only in this way could there be assurance of a constant flow and exchange of scientific information and news. Only in this way could a stable program be established to tackle knotty research problems through worldwide collaboration, bring basic scientific discoveries to clinical trials more quickly, and hasten the prevention and treatment of crippling diseases of the nervous system.

These were the springs of action that brought about the creation of the World Federation of Neurology. During this early organizational phase of the WFN, its national delegates also decided to call the organization a world federation rather than an international federation. The term "international" postulates an idea of boundaries or frontiers which may be respected by man but not by the major diseases of mankind. It seems logical that medical scientists must theoretically, at least, transcend the concept of internationally determined boundaries if a true degree of world collaboration is to be achieved. Hence, the title finally adopted was "World Federation of Neurology."

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[9] President: Ludo van Bogaert (Belgium); Vice President: Macdonald Critchley (Great Britain), Auguste Tournay (France); Secretary-Treasurer General: Pearce Bailey (United States); Chairman of the Committee on the Constitution and By-Laws: G. Schaltenbrand (Germany).

Central focus and scope.—The central focus of the WFN program, since its inception, has been directed to a world attack on neurological and sensory disorders, particularly those crippling disabilities of the nervous system and its important appendages concerned with vision, speech and hearing. These disorders which take their largest toll in childhood, middle age and beyond, include cerebrovascular diseases (strokes), cerebral palsy, mental retardation, multiple sclerosis and demyelinating disorders, muscular dystrophy and the neuromuscular disorders, Parkinson's disease, epilepsy, tumors and infections of the nervous system, cataracts, glaucoma, and many other disabling conditions that impair vision, hearing or speech, as well as infections and injuries to the nervous and sensory systems. In the United States alone about 20 million persons are affected by some neurological or sensory disorder.

Although the core of the WFN program is directed primarily to the development of a coordinated attack on neurological and sensory disabilities, nevertheless, its activities are not necessarily confined to this field. Disease rarely respects boundaries between different bodily organs any more than it respects frontiers that divide nations. Consequently, the WFN program is broad, its committees and commisisons have specialists from many fields, and it is prepared to collaborate with qualified international bodies in preparing an attack on any disease that materially affects the health and welfare of peoples around the world. For example, an important symposium planned by the WFN for the Seventh International Neurological Congress to be held in Rome in 1961 deals with the relationship of common neurological disorders to internal disease.

AIMS

The chief objectives of the WFN as set forth in its constitution are: (1) the dissemination and exchange of news and scientific knowledge in clinical neurology and neurological science throughout the world; (2) stimulation and encouragement of clinical and basic neurological research on a worldwide basis; (3) the holding of international congresses and symoposia in neurology and neurological science, and (4) the establishment of a means for closer personal associations of neurologists, neurological scientists and other medical scientists on a worldwide scale.

To these objectives may be added the goal of the WFN to serve as a prototype for the encouragement and dissemination of information leading to a greater collaboration in world medical research. To aid this objective, the secretariat of the WFN is ready to be of service to world statesmen or international government bodies who have a dedicated interest in worldwide medical research and believe that greater collaboration in these efforts could help eradicate the major diseases now threatening mankind.

Not a Research Institute.—The WFN program aims are not analogous to those of an international research institute. The WFN secretariat does not solicit or endeavor to promote individual research or training applications for grant awards; it does not contract or subcontract for extramural research nor does it structure individual research projects of its own.

The central WFN mission is to serve as an integrating force and information exchange center for neurological and other medical sciences; to function as a focal point for the development of scientific registers, repositories of pathologic specimens and scientific literature; and to promulgate the organization of international symposia, congresses, exchange professorships, lectures and consultancies.

The only WFN activities now related to the conduct of active research are studies on the development and refinement of epidemiological techniques and methodologies that may be applied to promising collaborative projects in international geographic clinical pathology such as the one now being organized in cerebrovascular pathology. In these multi-institutional projects, the secretariat of the WFN serves as a planning center and central laboratory for the various project leaders. Here they can convene for the establishment of uniform and acceptable protocols and methodologies needed for the integration of the total project.

The Channel of Scientist to Scientist.—Several major channels of communication may be used to encourage worldwide research in medicine and biology. The first is the flow of news from country to country via diplomatic and political channels. The second is an informational exchange and grant support from government research agencies to their counterparts in other countries, to directors of scientific academies, universities, and research institutes. These are

medical administrative channels. But still another channel, hitherto almost unused, is the line of communication that flows from scientist to scientist. The strengthening of this channel could provide a true worldwide scientific forum where the men who actually do the work can be made part of the whole and where both the clinical professor and his laboratory colleague could feel as voting citizens in a global program.

It is the channel of communication that can assure medical scientists against the fear of "directed research," against the individual dread of "scientific imperialism." It is the channel that concerns directly the laboratory man who must face the basic problems and the clinical scientists who must face his colleagues, his patients and his patients' families and friends. This channel strikes at the grass roots of human collaboration in global medical research.

Consequently, the WFN is developing as one of its principal aims the broadening on a worldwide scale of these channels of communications between scientists, problems, and people. It will strengthen, on the one hand, its current bonds with its own professional constituent societies;[10] and on the other hand it will foster its present liaisons and encourage new affiliations with government scientific bodies and voluntary health agencies.

Pertinency of WFN Aims to Neurological Research.—While the principal aims and activities of the WFN could be profitably applied to any branch of medical research, they are especially pertinent to neurological and sensory disease research.

Neurology, as a specialized branch of medicine, began in Europe during the 19th century. Since its inception, neurology has been closely anchored to clinical research and to the laboratory, perhaps more so than any other medical specialty. This has been the source of its strength but also of its weakness. Some strong citadels of neurological research and teaching were created in scattered areas throughout the world but few physicians were trained as practicing neurologists. Until recently, few neurological patients ever saw a neurologist or even knew they had a neurological disorder. Hence their needs and suffering never gained public recognition.

Further, the thin scatter of neurological programs throughout the world caused some of the disciplines basic to neurology to separate from the central core of neurology and to seek an autonomy of their own. This caused a further dilution of the parent stem.

If ever an opportunity to consolidate and pool talent was needed in medical research, it was in the discipline of neurology. This opportunity emerged from the combined efforts of newly created voluntary health agencies in the United States dedicated to the neurological field and a handful of American neurologists. Their work stimulated the creation of the National Institute of Neurological Diseases and Blindness (NINDB) by act of Congress. This institute within a few years arose from the status of an institute in name only to a flourishing dynamic segment of the National Institutes of Health. The growth of NINDB was accompanied by a surge of academic neurology in the United States. At approximately the same time neurological plans were being organized in the U.S.S.R. under a concentrated 5-year plan. The impact of these movements is now being felt in India, Thailand, Japan and other areas.

The second opportunity for consolidation, but this time on a world scale, is now at hand through the support of the secretariat and program of the WFN. Academic neurology, by virtue of its history, the contour of its orientation, recent growth, and present status, is harmoniously attuned to the aims and ideals of the WFN program.

The most specific factor, however, underlying the pertinency of the WFN aims to neurological and sensory disease research lies in the renaissance of epidemiological studies on the geographic and climatic distribution of disease.

In the past, studies on the geographic and climatic distribution of disease often have provided clues of a general nature which led to further fundamental investigations of the disease process involved. The value of studies such as those on yellow fever in Central America and pellagra in southeastern United States have been accentuated recently by the dramatic discovery of Allison of the significance of sickle cell anemia to malaria in the tropical regions of Africa and Asia.

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[10] The national neurological societies now comprising the WFN have an aggregate of about 10,000 members, and the number is growing.

The increasing emphasis on the existence of an obscure metabolic basis for many diseases of the nervous system have highlighted a need for a world epidemological research program in this field. These types of studies are usually included under the title of "geomedicine" or "geographic pathology" which refers to the evaluation of the prevalency of diseases and their relationship to associated genetic and environmental factors in diverse geographic regions and populations. It includes geographic variations in the clinical manifestations of illness as well as the total incidence and prevalence figures. Studies, for example, of geographic variations in the frequency of multiple sclerosis show that this disorder is more prevalent in temperate than in tropical climates even though the clinical manifestations are the same.

Recent NINDB studies of the distribution of a new disease called "kuru" among the natives of New Guinea affords a unique opportunity to study this type of neurological disorder under control conditions. Other similar studies, in progress or about to begin, include the high incidence of amyotrophic lateral sclerosis in Guam and Greece; the geographic importance of the toxic Minamata disease and special forms of "liver-brain" disease, both found in Japan; the relationship between post-antirabic vaccination encephalomyelitis and multiple sclerosis now being studied in Japan and in Thailand; the relationship between kwashiorkor, a nutritional deficiency (India, Thailand, Belgian Congo), and certain muscular disorders; the variations in geographic prevalence of mental retardation and of inborn errors of metabolism, now being investigated in England, Belgium and Switzerland; and studies on variations in the nature and geographic prevalence of cerebrovascular disease which apparently exists among different ethnic groups.

Many scientists believe that no real "breakthrough" in many neurological and sensory disorders of obscure metabolic origin is possible until there is a greater pooling of professional talent and facilities around the globe to more collectively attack these problems.

Consequently, neurology and neurological science appears to be uniquely adapted to the inauguration of a worldwide research program, using the secretariat of the World Federation of Neurology as its professional focal point. It is a discipline traditionally geared to research and to an exchange of news at international assemblies. Most of all, the substance of its research is gravitating to certain key epidemiological studies which can be conducted fruitfully only on a worldwide scale.

ACCOMPLISHMENTS

As mentioned, the creation of the World Federation of Neurology was a spontaneous outgrowth of the activities of the First International Congress of Neurological Sciences held in Brussels in 1957.

After the election of officers, the ratification of the WFN constitution, and the fixing of annual dues, it was decided to situate a permanent WFN secretariat at the Institut Bunge in Antwerp under the supervision of WFN President Ludo van Bogaert.[11]

It was soon evident that the money collected from annual dues of the member societies would not carry the WFN program beyond a preliminary planning stage. To even partially activate its projected program, a secretariat would have to be equipped and staffed with a full-time medical officer and auxiliary staff. For this, additional funds were imperative.

The NINDB "Implementation" Grant.—Fortune smiled on the nascent WFN program when early in its history it was awarded by the National Advisory Neurological Diseases and Blindness Council a basic grant[12] for the staffing and equipment of its secretariat and the implementation of its program in November 1958.

The bulk of these grant funds were allocated for the employment of a small professional and secretarial staff of the central secretariat, office equipment, translation services, travel per diem for the central staff, and travel per diem plus fees for consultants needed for the implementation of medical research in this field. Office rental was furnished by the World Federation of Neurology.

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[11] Dr. van Bogaert, world renowned neurologist and neuropathologist, lecturer and author, also was Secretary General of the First International Congress of Neurological Sciences.

[12] The title of the NINDB grant (3B–9120), DHEW–PHS, was "International Neurological Research Implementation."

This grant was made to the WFN with a moral commitment of equal amounts for two additional years.

First Year of Activation.—The NINDB grant made it possible for Dr. van Bogaert to translate the major WFN aims into a vigorous action program for the implementation of world medical research in almost record time. During this period the following was accomplished.

A hospital attic of the famous Institut Bunge was transformed into the secretariat of the WFN with offices which were equipped. A full-time medical and supporting staff were recruited. The corridors of the secretariat began to buzz with activity as it was becoming a hub of world medical research in the neurological field.

Antwerp Symposium.—In May 1959, the WFN in its Antwerp secretariat conducted a world symposium on current forms of encephalitis. The symposium was attended by neuropathologists, neurochemists, and electro-encephalographers from many nations. The proceedings are to be published. This project was the first step toward the establishment of an international reporting system and standards of nomenclature and the classification of disease processes in the neurological field. The development of such a reporting system is essential to a world program in clinical research of neurological and sensory disorders.

Copenhagen Conference.—In June 1959, the WFN co-sponsored with the Danish Multiple Sclerosis Society in Copenhagen a geomedical conference concerned chiefly with multiple sclerosis. The proceedings of this conference are in press. Plans were formulated for a geomedical symposium to be held in conjunction with the Seventh International Neurological Congress in Rome (1961).

Another important by-product of the Copenhagen conference was the formulation of a project by Allison (Belfast) and Fog (Denmark) for studies on the distribution of multiple sclerosis in the Feroe and Shetland Islands—two islands geographically identical but which apparently vary considerably in comparative incidence of multiple sclerosis. This project is to be financed (about $20,000) from Danish and English sources, indicating that research grant support, other than from the United States, while difficult, is not impossible to come by.

Creation of Problem Commissions.—Early in its planning, the WFN had conceived the concept of creating problem commissions ("groupes de travail") of experts to review and evaluate the status of research and research opportunities in specialized areas. The task of these commissions would be to spot and call attention to promising research even though it may appear in some obscure laboratory or clinic. In addition, these commissions study whether or not a more effective attack may be made on a given research problem by pooling scientific talent and facilities from several countries into a single collaborative operation.

To date, nine such commissions have been formed, of which six have already held preliminary meetings.[13] New commissions to be organized in the near future are a Commission on Tropical Neurology with a preliminary meeting to be held in the Belgian Congo, and a Commission on Diseases Indirectly Related to the Nervous System.

Information Exchange—World Neurology.—An essential prerequisite for concerted world planning, programing and prosecution of medical research, whether general or specialized, is a greater flow and exchange of scientific information and news than exists today.

It is sometimes shocking to discover, for example, how little is known in the United States of important investigations being conducted overseas. The most important and perhaps the most stable medium to fill this gap is a professional journal, carrying original as well as review articles in several basic languages, and a newsletter.

In this respect also the WFN was fortunate in inducing a well-known medical publisher in the United States to assume the risk of launching an official WFN monthly publication to be called "World Neurology." The first number of the journal is to appear in July 1960.

Articles in "World Neurology" will be published in four languages—English, French, German, and Spanish. The editorial board and consulting editors represent 26 countries, many different language areas, and a wide variety of interests in the neurological and allied medical sciences.

[13] Commission of Neurochemistry; Commission of Neuropathology; Commission of Comparative Neuroanatomy; Commission of Comparative Neuropathology; Commission on Biometry and Genetics; Committee for Scientific Relationship with the Int'l. Federation of EEG and Clinical Physiology; Committee for Scientific Relationship with the World Federation of Neurosurgical Societies; Commission on Child Neurology; and Commission of Neuroradiology.

The scientific section of "World Neurology" will contain review articles on invitation, but in a language different from the one usually used by the author, with abstracts in the other languages; unsolicited original papers; translations of important papers not readily accessible; and reviews of important books.

The information section of "World Neurology" will contain reports on research activities in various countries, exchange information on the availability or need for research or teaching materials, photographs of patients in remote geographic areas, and material needed for research. The journal will also provide a complete calendar of all national and international meetings of interest to neurologists and neurological scientists as well as a regular WFN Newsletter.

"Tooling Up" Collaborative Projects.—The WFN secretariat, during the past year, devoted much time and energy to a blueprint and study of methodologies, protocols, and coding guides for the launching of a multi-institutional (universities and institutes from 15 countries in separate geographic areas) and multidisciplinary attack on the epidemiology and pathology of cerebrovascular disease, the number three killer in the United States. These studies are continuing in consultation with experts. It is expected that the basic formula for launching the project [14] will be set within a year.

A preliminary study is also in progress for the coordination of overseas studies in perinatal morbidity and mortality with collaborative studies now being conducted by NINDB in the United States.

The WFN has participated actively in the preliminary meetings for the Fourth International Congress on Neuropathology to be held in Munich in 1961 and the Seventh International Neurological Congress to be held in Rome the same year. Both these congresses will be held under WFN administrative auspices.

Had the NINDB Grant Not Been Made.—Some of the major program accomplishments of the WFN secretariat during its first year of activation have been reviewed in capsule. This now raises a pertinent question: In what condition would the WFN secretariat be if the NINDB grant had not been awarded?

Had the grant not been made, WFN would have continued through its spirit, enthusiasms, and the generally accepted doctrine that world collaboration was essential for a progressive future in neurological research.

However, there is little doubt that without the grant the present impact of the WFN on concepts of world research and on the morale of neurological scientists throughout the world would have been greatly diminished. The WFN secretariat could not have recruited a full-time staff and this would have weakened the permanency of its operations.

Moreover, many of the features of its present program probably would not have been initiated. Omitted would have been the important symposia, the essential liaisons with WHO and other international groups, the creation of problem commissions, the launching of "World Neurology," and the development of epidemiological methodologies for collaborative projects among nations.

Of equal importance, too, is probably the fact that, without the NINDB grant, the world might have lost for an undetermined period an important testing instrument—an instrument for measuring the value of a world federation of national professional societies in formulating and integrating a program of worldwide medical research.

Finally, since delay often breeds a brand of mistrust that causes further delay, it is possible that without the NINDB grant a program in neurological and sensory disease research utilizing scientists and facilities throughout the world might have been postponed for ten or perhaps even twenty years.

Significance of the WFN to the United States.—One often hears questions such as:

> "What particular benefit does support of the WFN secretariat and program have for the United States?"; "Is it not just another giveaway program?"; "Does not the United States here assume all the risks in an enterprise in which it must share the rewards, if any?"; "Is it possible to develop a true collaborative medical research program among nations if the United States is the only donor?"

It would seem that the answer to such questions is partially positive but mostly negative, the degree of positiveness being determined by the manner in

[14] This project is the subject of another NINDB grant application.

which the program is conducted. To clarify, let us consider five basic assumptions:

The first is that, at present, the United States is the only country with sufficient leadership and prestige in medical research to inaugurate such a program.

Second, it is the only nation whose citizens are sufficiently health-minded to support the necessary leadership.

Third, the United States, alone, has enough *free* hard dollars to initiate the enterprise.

Fourth, if the United States should be the sole donor and so remain, the total program would probably not succeed.

And, fifth, the United States stands to benefit from a program of world research more than any other nation.

XIII INTERNATIONAL CONGRESS ON OCCUPATIONAL HEALTH,
Linden, N.J., March 4, 1959.

DEAR SENATOR HUMPHREY: The XIII International Congress on Occupational Health to be held in New York from July 25–29, 1960, is held under the auspices of the Permanent Committee and International Association on Occupational Health. This Committee is made up of delegates from some 35 nations throughout the world. Each country, which is represented on the Permanent Committee and International Association, is permitted to have not more than 18 members. These members are nominated by their own delegation and ultimately elected by the Permanent Committee and International Association.

Every 3 years for the past 50 years, with the exception of those years in which a general war was in operation, this Permanent Committee has held a meeting in one or another of the various countries represented. In 1957, the meeting was held in Helsinki, Finland; and in 1954 in Naples, Italy. The country in which the meeting is to be held is selected by the Permanent Committee upon invitation by the delegation from that country. Once a country has been selected, the delegates in that country are permitted to select an Organizing Committee whose function it is to organize the meeting, both in terms of its program, content, and the various phases and problems to be discussed.

At the XII International Congress on Occupational Health, held in Helsinski in 1957, the American Delegation at the suggestion of the Industrial Medical Association proposed that the XIII International Congress be held some place in the United States. Several other countries including Spain suggested that the 1960 meeting be held in their country, but it was the decision of the Permanent Committee to accept the offer which was tendered by the American Delegation.

Following the meeting in Helsinki, the American Delegation convened in New York and among them selected the Organizing Committee, whose names appear on the letterhead used for this letter. The Organizing Committee in turn appointed the various functional committees essential to carry out the business of the Congress, such as a Program Committee, a Fund-Raising Committee, an Arrangements and Transportation Committee, etc.

In the past, it has been the custom of the country in which the Congress is to be held to appropriate certain public funds in support of the Congress. It has been the expressed desire of the Organizing Committee of the XIII International Congress on Occupational Health that this Congress be run with private donations from industry rather than relying upon a contribution from the Federal Government of the United States. This in part, of course, has been necessitated by the fact that the United States Government generally does not give support to congresses of this nature as is the custom in certain other European countries. It is the firm conviction of the Organizing Committee that the accomplishments of private enterprise in the field of occupational health are significant, and we believe that private enterprise should take pride in demonstrating them to the world through the medium of this Congress. It is for this reason we believe private enterprise will enthusiastically support this Congress through donations.

Various occupational health setups in Europe devote a great deal of their time and effort to a study of the curative aspects of occupational health but far too little to the preventive and industrial hygiene aspects. It is one of the purposes of the XIII International Congress on Occupational Health to stress the preventive and industrial hygiene aspects of occupational medicine which

we have found more economical and more in keeping with our humanitarian concepts. In addition, we wish to demonstrate to our European confreres that much of a useful nature can be done by industry on a voluntary basis in occupational health programs and need not be undertaken under the pressure of legislation which is so often the case in the countries of Europe.

One other area where we believe that additional discussion will be worthwhile is the subject of maximum allowable concentrations. This is the highest concentration of a material in the atmosphere a worker may breathe safely on his job. Workers in certain countries in Europe have proposed maximum allowable concentrations which we in the United States believe to be unreasonable. Since the control of the concentrations of materials in the working atmosphere requires the installation of costly control equipment, unnecessary controls may so increase the cost of the finished goods as to make their manufacture economically impossible.

We are convinced that a healthy working force is in the best interests of any country and that the provision of adequate occupational health services helps to insure the provision of a healthy working force. Some of the important problems which will come under discussion at this forthcoming congress will be the problem of absenteeism from work and its causes and its potential correction. In addition, the problems of mental health in industry are gaining increasing importance in studies undertaken in the field of occupational medicine. Finally, research efforts in the field of toxicology and industrial hygiene are pointing out new problems as they are developed by industries and making it possible to correct them before they become a problem in the health of the worker.

It is the belief of the Organizing Committee of the XIII International Congress that the best interest of the worker is served by maintaining his health on the job through preventive and constructive health measures. It is our belief that the standards of health of the American worker are very high. We hope to demonstrate this to our European confreres so that they may look more favorably upon the preventive and constructive aspects of occupational health, rather than the curative aspects. The latter, of course, can be instituted only after some damage has been produced in the worker.

I trust that I have provided you with some information on the background and organization of the XIII International Congress and with some of the major problems to be discussed at this coming meeting. I would be most happy to attempt to answer for you any specific questions which may come to your mind or the minds of the members of your subcommittee after you have had an opportunity to review this information. I am attaching two brochures prepared by the Organizing Committee which describe the meeting further.

Sincerely yours,

R. E. ECKARDT, M.D., *Secretary-General.*

INTERNATIONAL ACADEMY OF PATHOLOGY, INCORPORATED,
(FORMERLY INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS),
Washington, D.C., 22 July 1959.

DEAR SENATOR HUMPHREY: * * *

The International Academy of Pathology is the successor to the International Association of Medical Museums which was founded in 1906 to improve medical education and facilitate exchange of information and pathologic material on a worldwide basis. The academy endeavors to fulfill these objectives by conducting scientific meetings devoted largely to courses in Pathologic Physiology, and courses in Surgical, Autopsy and Experimental and Comparative Pathology; by stimulating an exchange program; and by the publication of a journal, "Laboratory Investigation," devoted to experimental pathology and technics.

Although the association has always been international in scope, its international activities suffered a setback during the war. After the war, the association was reorganized, renamed the International Academy of Pathology, and a long-range program of improving the teaching of pathology as a basis for improved medical education, practice, and research was initiated. Our efforts are concerned primarily with pathology in its broadest connotation as a study of disease process, and we believe that no progress can be made without improving the status of laboratory medicine. For it is through the study and understanding of functional and structural changes as a result of disease that we can hope to prevent, heal, and cure.

I am certain that you are aware of the key position that a pathologist occupies in medicine. He bridges the gap between the basic scientists and the practitioner in medicine; he seeks to determine the cause and the mechanism of disease; he assists the surgeon and other specialists in proper diagnosis and therapy; and he demonstrates to his medical colleague the final outcome of disease. He is conversant not only in general medicine and surgery, but in each specialty and is a constant teacher and a perpetual researcher.

The academy has about 1500 members at the present, representing some 60 countries with a number of divisions in some of these countries. Each area has its own problems, but continuing postgraduate education of university and hospital pathologists in these countries, and assistance and guidance in training of outstanding young men in pathology to provide much needed leadership to the medical community are the basic needs of most of the countries in Latin America, Asia, and Africa. Indeed, even in Western Europe with its tremendous advances in medicine, there is need for postgraduate education for, as you know, medicine is continually changing and the pathologist, who must be conversant with all the specialties in medicine, must keep abreast with these changes if he is to properly discharge his responsibilities as a pathologist in the medical community.

The program of the International Academy of Pathology envisions the following areas in the international field:

1. Acceleration of the exchange program whereby pathologists from this country can visit those in other parts of the world and whereby we can have similar visitors from these countries to exchange information on problems specific to each area, assist and guide each other in problems of mutual interest, and, as far as possible, provide the means of coordinated and concerted attack on the problems of disease.

2. An accelerated fellowship and trainee program whereby promising young men can be provided the financial support to receive postgraduate specialist training in approved residency programs in the United States and whereby selected young men from this country can be supported during the course of a training period in special laboratories overseas.

Although such programs are available and there is some financial support both from governmental and nongovernmental sources for exchange visitors and for trainees, the number of candidates who can be accepted in these programs is pitifully small and, projected to the various specialties in medicine, is almost nonexistent. The International Academy of Pathology hopes that these areas can be developed, because we believe that no improvement can be affected in medicine and public health unless and until the hospitals, medical schools, and medical institutions are provided with adequate laboratory facilities headed by well-trained pathologists.

3. Preparation and distribution of modern teaching aids to medical centers in countries that have no such facilities. Such teaching aids consist of microscopic slide sets accompanied by descriptive text, lantern slide teaching sets, movies, and the like which are fundamental to proper modern day education. Such sets can be used not only by pathologists but by all the other specialists. For example, a teaching set in diseases of kidney can be studied by the pathologist, by the physiologist, by the internist, by the urologist all working in the field of renal diseases.

4. Providing organizational know-how to these countries to establish registries in various diseases or organ systems. Through such registries large numbers of cases (clinical records, pathologic material or information on medical or health conditions) can be assembled on a national or regional basis in a comparatively short time. Material thus collected would be most valuable for research and education and provide the means to secure and disseminate the information dealing with large numbers of cases. Through such registries, the long delay between observation on individual cases and utilization of such information in research, education, and patient care is eliminated.

Both of these programs are becoming increasingly better recognized as basic to improved medical research, education and practice, but have not yet received the full recognition and support that they desire to develop their potentialities.

The International Academy of Pathology is in a unique position to contribute materially to international medical education and research. It bears an international title and thus is free of the prejudices that may exist against a national organization. Its headquarters and main support are in the United States, but it has members in key educational and research institutions throughout the

free world. Its members have the organizational, educational and research know-how and are willing to cooperate in the program. Unfortunately, the financial resources of the academy are limited since our membership is of the academic groups with limited income. Yet in all these areas the International Academy of Pathology has rendered specific assistance and contributions albeit on a small scale. The details of these I shall be happy to send you if you so desire.

It is sincerely hoped that funds will become available through the International Health Program under the leadership of the National Institutes of Health to further develop and expand these worthwhile programs. These areas are basic to improved medical research, education and practice and we should like to recommend that consideration be given in your program to their development.

The council of the academy has asked me to convey to you their deep appreciation for your efforts to improve international health and medicine and for the opportunity to express the needs as we see them. We wish you success in this great humanitarian endeavor, and assure you that we stand ready to assist you in any way we can.

Sincerely yours,

F. K. MOSTOFI, M. D., *Secretary-Treasurer.*

INTERNATIONAL SOCIETY OF CLINICAL PATHOLOGY,
21st October, 1959.

DEAR MR. HUMPHREY: Thank you for your letter of the 2nd October in which you invite me to give you some information on the activities of the International Society of Clinical Pathology which may be of interest to your subcommittee. I enclose a copy of the constitution of our society, in which I think the activities are clearly defined.

I should also like to add that in the last few years a number of societies which publish their own journals of clinical pathology and also technical information transfuse other societies through these publications which are issued to other member societies.

If there are any specific questions you would like to ask, I shall be only too pleased to supply the necessary information.

Yours sincerely,

DR. J. UNGAR, *Secretary.*

CONSTITUTION OF
INTERNATIONAL SOCIETY OF CLINICAL PATHOLOGY

Article 1. There is instituted an International Society of Clinical Biology. Clinical biology or clinical pathology is defined as the application of biology, pathology and all their related sciences to clinical medicine.

The aims of the society shall be—

1. To initiate permanent cooperation between the National Associations of Clinical Biology (Pathology) of the member countries or groups of countries;
2. To coordinate their scientific and technical means of action;
3. To promote the development of clinical biology (pathology) in every aspect of its field of interest, especially by convening conferences, congresses, and meetings, by the interchange of publications and also of personnel.

The provisional headquarters of the society is in London. The site of the headquarters shall be determined every 3 years by vote of the council.

Article 2. The society as defined in article 1 shall act through its council.

Article 3. A country may participate in the society either through its National Society of Clinical Biology (Pathology) or through a federation of several national societies each representing one or several sections of clinical biology (pathology), e.g., biochemistry, morbid anatomy, microbiology, haematology, etc., or, provisionally, if such societies do not exist, by its government.

Membership of the International Society of Clinical Pathology is open to societies or federations of societies whose ordinary membership is confined to persons holding qualifications entitling them to practice medicine in the countries concerned.

Article 4. The number of delegates and the contributions from each member-national association shall be as follows:

Population	Number of delegates	Number of contribution units
Class A. Under 10,000,000 inhabitants	1	2
Class B. Between 10 and 40,000,000	2	5
Class C. Over 40,000,000	3	8

In the case of two or more nations wishing to participate together in the society, the number of delegates shall be in proportion to the total population of the countries concerned.

If such is the wish of a country, the inhabitant of its dependencies will be counted as part of its population according to the information provided by its government.

Self-governing dominions shall be eligible for membership as national units and shall dispose of votes in proportion to population as shown above.

Article 5. Any member national association may retire from the society provided it has fulfilled its obligations.

The council may by a three-quarters majority strike out a member from the society for nonpayment of contributions, or any other serious reason, the said member having been duly invited to provide explanations.

Article 6. The council shall be composed of the delegates of all the member national associations, the number of these delegates being fixed according to the category of the country as follows:

Category C: 3 delegates.
Category B: 2 delegates.
Category A: 1 delegate.

For each country the delegates shall be appointed by the national member society of that country or, in default of such, by the government.

As occasion may demand the council shall represent the association within UNESCO and shall constitute the Commission in Clinical Biology (Pathology).

Article 7. The executive shall consist of a bureau elected by the council of delegates and composed of a president, four vice presidents, a secretary-general, an assistant secretary, and a treasurer, together with the immediate past president. If anyone not being a member of the council be elected to the bureau he shall ipso facto become a member of the council.

The council shall elect the president from among the former or acting vice presidents.

The terms of office of the president, the vice presidents, the secretary general, the assistant secretary, and of the treasurer shall be for 3 years. Two of the four vice presidents selected by lot shall be eligible for immediate reelection to the same office for a period of 3 years. The president, the secretary general, the assistant secretary, and the treasurer shall be eligible for reelection to the same offices.

The treasurer will receive contributions, gifts, bequests, and subventions; he will deal with all handling of funds necessary to the work of the society.

Independently of the constitution of the bureau, the council may choose an honorary president of the nation selected as the site of the next forthcoming International Congress.

The bureau shall have power to co-opt to itself for 1 year, supplementary members to the number of two for purposes of advice and counsel; such co-opted members shall be appointed for a term of 1 year. Members of the bureau must be medically qualified.

Article 8—The Council. The council shall meet at least once every 3 years and also whenever it is convened by the president, or on request received from one-quarter of the member national associations.

The council shall hear reports on its general and financial situation; such reports and accounts shall be sent to the member national associations so as to be received by them at least 2 months before the sessions of the council.

The council will fix the dates and places of conferences which shall take place at least once in every 2 years.

The council shall receive and pass the budget proposed to it by the bureau; the budget shall become operative only after being passed by the council.

The council shall hear and examine reports and recommendations in the field of science; such reports will only be adopted if receiving a majority of the votes of the delegates present; these decisions of the council bearing on new scientific practices such as nomenclatures, symbols, and standards must be tested for a period of at least 1 year. The final vote on these decisions may be made by post; the number of votes for each member country association will be that of its delegates as under article 4. Such proposals must be carried by a two-thirds majority of the votes cast, always provided that the total number of votes cast shall be at least half plus 1 of the number of delegates entitled to vote.

The voting on administrative and financial matters will be by national member associations, each having the number of votes indicated in article 4. In such cases all delegates need not be present; delegates may designate deputies to represent them and vote in their names.

Voting will take place only on items on the agenda and this agenda shall be circulated so as to reach the member national associations at least 3 months before the date of the meeting.

In spite of this in cases of urgency the members present at any meeting of the council may by a majority of two-thirds of those present decide to place an item on the agenda; but the vote upon it shall not be operative unless supported by a number of votes representing a majority of the total number of all the delegates.

Votes may be sent by post. In case of equality of votes the voting shall be void.

Article 9. The secretary-general, or, failing him, the assistant secretary, shall keep minutes of all sessions of the council; of these two copies shall be signed by the president and the secretary and kept in the records of the council.

The secretary-general shall keep the records of the council and of the bureau and shall see to it that the decisions both of the council and of the bureau are enforced and that their agenda are distributed.

Article 10—The Bureau. The bureau shall be responsible for—

1. The strict observance of the statutes.
2. Deciding upon the questions to be placed upon the agenda of meetings of the council. These agenda must include any item submitted by any member national association to the committee up to within 6 months before the meeting.
3. Carrying out the program of the council, convening International Congresses of Clinical Biology (Pathology) and putting into effect all those other activities indicated in article 1.
4. Placing before the council its report on the general situation of the association, the accounts of the previous financial years and the draft budget.
5. Representing the council or appointing its representatives.

Article 11. Expenditures will be sanctioned by the president and ordered by the secretaries.

In all actions of civic life and before the courts the Society shall be represented by the President or the Secretary-General who may delegate their powers to any member of the Council.

Article 12. Amendment to the Constitution may only be proposed by the bureau or by a national member association.

Suggested amendments to the Constitution may only be placed upon the agenda if communicated to the bureau at least 6 months before the meeting of the Council at which they will be considered.

Each country shall express its vote as under article 8.

The constitution may only be amended by a majority vote of two-thirds of the delegates.

Article 13. If the Society shall be called upon to decide upon its dissolution the council shall be convened to that particular purpose on a notice of at least 3 months and the meeting must comprise the representatives of at least two-thirds of the member countries.

If this proportion is not attained the council shall be called again within 6 months and on this occasion shall be empowered to come to a decision irrespective of the number of countries represented. Votes may be sent by post. In any case dissolution shall only be decided upon by a majority of at least two-thirds of the votes cast.

Article 14. In case of dissolution the Council shall designate one or more commissioners to wind up its affairs. In such case the surplus assets of the Society shall be donated to one or more international institutions.

Article 15. Rules of Procedure assessing the contributions of the national member associations and establishing the details of the wording of the council will be drawn up by the bureau which shall submit them to the council for approval.

The French and English texts will be used jointly to interpret the articles of the present statutes.

NOTE.—The contributory unit is provisionally fixed by the Bureau, for 1948, as 30 Swiss francs.

INTERNATIONAL SOCIETY OF GEOGRAPICAL PATHOLOGY,
Bale (Suisse), January 9, 1960.

DEAR SENATOR HUMPHREY: * * *

First of all, I should like to thank you for inviting the attention of our society to the study which your subcommittee is conducting now; I exceedingly hope that this great work will lead you to a full success.

In order to spare your time as well as mine, my answer will be as short as possible and will consider mainly five points:

1. Historical background of the ISGP.
2. Organization of the society.
3. Work done up to now.
4. Work to be done.
5. General suggestions for the future.

Doing so I shall be able to answer the questions asked in your letter of July 9th as well as in your memorandum of October 12th, 1959.

1. Historical background of the ISGP: The ISGP was founded October 8th, 1931 at Geneva (Switzerland) under the sponsorship of the great pathologists, M. Askanazy (Geneva), L. Aschoff (Freiburg i. Br. Germany), G. Roussy (Paris), Howard T. Karsner (Cleveland, Ohio, now Washington), R. de Josselin de Jong (Utrecht), N. Fiessinger (Paris).

The object of the society is to study the relations which might exist between diseases and the geographical environments in which they occur. This first conference discussed cirrhosis of the liver.

The 2d conference was held at Utrecht (Holland) July 1934 on arteriosclerosis; the 3d at Stockholm August 1937 on anemias. During World War II all international contacts were impossible. During the years 1949 and 1950 Professor Folke Henschen (pathologist at Stockholm), Professor L. Michaud (at the time internist at Lausanne) and myself elaborated the project of bringing the society to life again, and we organized the 4th conference at Liége (Belgium) in September 1952 where hepatitis was discussed. The 5th conference was held at Washington in September 1954 on carcinoma. The 6th conference took place in Paris July 1957 on peptic ulcer and the 7th conference will be held in London 28–30th June 1960 on pre-eclampsia and eclampsia in gravidity.

2. Organization: All work, even this of the secretary general, is honorary work. The society consists of mainly medical persons who are interested in problems of geographical pathology. Their enrollment is a very loose one, e.g., those who have interest announce themselves to the secretary general or to one of the presidents of the national committees. These committees are organized by the members of a country or a region; their composition may vary according to the subject chosen for the next conference. For example in the case of cancer as subject of discussion, some national committees elected mainly cancerologists, whereas in the case of eclampsia they elected mainly obstetricians, etc. Usually the presidents and the secretaries of these committees remain the same as long as possible in order to ensure a kind of continuity in the commitee-work. It is evident that the effectiveness of a committee depends largely on the interest and the ability of its president to bring colleagues on his side and to rouse interest for the object of the society, at least for the subject to be discussed at the forthcoming conference.

National committees, more or less active, exist in the following countries:

Europe: Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Hungary;

North- and Middle-America: Canada, Cuba, Honduras, Mexico, United States, West Indies;

South America: Argentina, Brazil, British Guiana, Chile, Colombia, Paraguay, Uruguay;

Africa: Nigeria, South African Union, Uganda.

Asia: India, Japan, Indonesia, Israel, Malaya, Turkey;

Oceania: Australia, South Pacific area.

The society is governed by an executive committee elected by the assembly of members present at a conference. For the moment, the members of this committee are:

President: Prof. J. H. Dible (London), former chief pathologist at Postgraduate Medi. School, London.

Vice-presidents: Prof. Robert A. Moore, president Downstate Medical center, State University New York, Brooklyn. Prof. J. Delarue, Professor of Pathology, Medical School, University of Paris.

Members: Dr. M. Straub (Rotterdam), Prof. J. N. P. Davies (Kampala, Uganda), Prof. E. Herzog (Concepcion, Chile), Prof. F. B. Bichner (Freiburg i. Br. Germany), Prof. E. Ciaranfin (Milano, Italy).

General Secretary: Prof. Fred C. Roulet (Basle, Switzerland).

Members of Liaison: Prof. Paul E. Steiner (Philadelphia), Prof. V. R. Khanolkar (Bombay, India), Prof. T. Yoshida (Tokyo, Japan), Prof. O. Gsell (Basle, Switzerland).

Honorary Presidents: Prof. R. de Josselin de Jon (The Hague), Prof. Howard T. Karsner (Washington), Prof. Folke Henschen (Stockholm).

The main work of the executive committee is assumed by the secretary general in connection with the president.

How is the society working?—The assembly of members chooses a subject among those submitted by the national committees, subject which must be studied during the forthcoming 3 years. In order to get homogenous material susceptible to be compared in general studies, it is necessary to prepare a questionnaire which must be answered in similar and complete fashion and in which the answers must cover the same period of time. The answers are given by the national committees which, of course, are free to organize their work in their own country. Such questionnaires are prepared soon after the last conference by the secretary general in collaboration with the members of the executive committee as well as with the aid of special experts consulted ad hoc. Once the questionnaires are answered, each national committee prepares one or several national reports (this depends upon the subject, for instance one may obtain a clinical report as well as a pathological-anatomical and an epidemiological report for the same country). These reports are collected by the secretary general and distributed among selected rapporteurs (usually specialists on the particular field of study), who will prepare general reports to be presented and discussed at the conference. In such reports the material collected all over the world, in a similar way and in the same period of time, will be analyzed, compared and commented. It may be that several general reports must be presented, each covering one special aspect of the subject, for example statistics, special geographical aspects, nutritional problems, etc. One may get a good idea about such reports in consulting the volumes of the proceedings of the conferences (the transactions-volumes are deposited at the Library of Congress, Washington, D.C.).

The results of such inquiries are entirely in the hands of the national committees: is a committee well organized and is enough interest in its country for the subject to be studied, there are no difficulties. Well prepared, completed data represent as in other disciplines of science the basic material for good general results. It may be, of course, that we do not receive data from each country relevant to the lack of interest; but it may be also that the national committees cannot afford a financial burden connected with the survey (for instance, for engaging a person in charge of collating data, for statistical work, etc.). Therefore, the inquiries performed up to now present large gaps as they have never been answered by all countries.

Financial questions.—The society has no fortune. From 1949 to 1952 I supported personally all the expenses (postage, printing, journeys, etc.), and still do so for some part of such items now. For the 4th conference and the following, 1954, 1957, and 1960, the society received grants of money from CIOMS, amounting to US Dollars 1,500–2,000. With this sum, combined with money collected as registrations fees at the conferences, we were able to cover the expenses for the organization of the 4th and the 5th conferences; for the last one (Paris 1957) this has not been the case. It was not possible to pay completely the printing costs of the transactions-volume like in the past. We had a deficit of Sw. Frs. 7,275, which has been reduced to Sw. Frs. 4,275 with the general help of Prof. Delarue (Paris) and a contribution of mine. The printing costs of the transactions-volume 1957 amounted Sw. Frs. 15,000.

As a rule all participants at a conference receive a free copy of the transactions; therefore, the conference-fee is usually high (about 80–100 Sw. Frs.). Nevertheless the society has always had financial difficulties according to the fact that there was no foundation capital and that before the war the pathologists and clinicians attending the meetings were few and embarrassed by financial questions. On the other hand, some generous grants allowed the society to print the transactions without difficulties; this is no more the case now.

The statutes, of course, do foresee an annual fee of Sw. Frs. 5 per member, which would be sufficient to cover the greatest part of the expenses of administration. Up to now it has not been possible to recover this money regularly. As a whole, this question must be revised and the financial background reorganized. As you know, scientific people usually do not care much for such things connected with money; they very seldom are good bankers.

3. Work done up to now: As mentioned previously, six conferences were organized covering the following subjects:

I. 1931: Cirrhosis of the liver: today pathologists would most probably neither agree to the classification proposed nor accept the etiological factors discussed at this first conference; for example: the question of hepatitis as an important etiological factor in cirrhosis of the liver was not accurately recognized at that time due to lack of information. Nevertheless, the results were interesting enough and still are representative of the opinions of great pathologists of 1931.

II. 1934: Arteriosclerosis: this was the very first time pathologists discussed with clinicians and veterinary people the whole question of arteriosclerosis on a larger scale, basing on valid statistics other than autopsy or hospital statistics. The proceedings are even today of the utmost importance for everybody engaged in a study of the disease, especially for the distribution among different populations.

III. 1937: Anemias: the reports on geographical distribution of pernicious anemia were of special interest for the time just at the beginning of therapy of this disease with crude liver. At a matter of fact, it was demonstrated that pernicious anemia is rarely seen in Japan and in Indonesia. The lack of data concerning the large American continent and the greatest part of Asia and Africa represented a serious handicap so that this conference could not draw definite conclusions.

IV. 1952: Hepatitis: this subject was chosen mainly under the impression of the worldwide importance of epidemic and infectious jaundice. Not well understood before World War II, hepatitis has been extensively studied in several countries during and after the war, especially in North America. Therefore it seemed to represent a good subject for international study. The international reviews presented at the conference as well as the discussions show that the gravity of the disease may vary on a large scale from country to country, severe cases with so-called "yellow atrophy" of the liver being more common in regions with poor nutritional conditions. For the first time continental pathologists were faced with the question of the utmost importance of nutritional factors in liver diseases, a question which has been studied during World War II especially in U.S.A. and Great Britain. It must be mentioned also that incidence rates could not be calculated at the time.

V. 1954: Cancer: besides reviews on geographical pathology of cancer in general (excellent review on the incidence of cancer in the USA, presented by Harold F. Dorn. Nat. Inst. Health, Bethesda) five special cancer forms were discussed: cancer of the stomach, cancer of the liver, cancer of the breast, cancer of the uterus and cancer of the lung. In each section a statistical analysis presents available data on incidence and frequency; another report stresses the main pathologic-anatomical features and differences among the countries, and several others discuss problems related to causative factors. It is not possible to specify the results of this large conference; one must emphasize, of course, that for the first time the data presented had an excellent statistical background so that the transactions-volume still represents a very good source of information on cancer. It must be said also that, as a practical result of this meeting, a group of pathologists and nutritionists decided to study more closely cancer of the liver. Under the sponsorship of the International Union against Cancer a special symposium was held two years later on this particular subject at Kampala (Uganda); the transactions of this meeting are published in "Unio internationalis contra Cancrum ACTA" Vol. 13, No. 4–5 (1957).

VI. 1957: Peptic ulcer: the data collected cover in all 40 countries in all continents with an aggregated population of 1,231,735,000 people, e.g., about 40 per-

cent of the world population. These data, of course, were not of uniform value. It could be established, however, that nothing would warrant establishing a correlation between ulcer of the stomach or of the duodenum and occupation, diet, and environmental stress as it has been very often postulated. The discussions emphasized nevertheless some special points, for instance, that complications of ulcer (like perforation and hemorrhage) more commonly occur in countries with high standard of living, whereas in countries with low standard cicatrisation with stenosis is more frequent. On the other hand, the rate of death from peptic ulcer is remarkably high in Japan; there is no reasonable explanation for this phenomenon. Against the general belief that peptic ulcer is not frequent among natives in Africa, the data presented show that it occurs commonly in some parts of tropical Africa and also in India, located especially at the duodenum. A dietary cause allied to protein deficiency was considered by some workers as possible. As a whole these results must be considered as a basic approach to the problem which as such remains unsolved.

Besides such results that one may perhaps call modest or scanty from the pure geographical point of view, the main benefits of our conferences lie on the numerous possibilities of international contacts among pathologists gathered from many points of the world. This is highly favorized by the fact that people attending the conferences have never been very numerous (hardly more than 150). Our conferences have shown also that the utmost importance for comparative studies on the field of geographical pathology must be given to reliable statistics of pathological data.

4. Work to be done: One of the aims of the society is the study of diseases in close connection with the environments, in other words the "ecology" of diseases. This can only be realized if there is in each country or region of the world a group of medical people, more or less associated with public health men and geographers, all interested in such questions. Many external factors like nutritional habits, quality of food, cooking habits, kind of vegetables used, quality of the soil and of the water, etc., cannot be analyzed by the pathologist alone; he can only make a statement at autopsy and compare his own data with those of other places. This is not sufficient, as all the conferences held up to now demonstrated clearly. The organization of groups in which public health people and statisticians must play an active part besides pathologists, internists, and geographers will be of utmost importance for the future. One may perhaps tell us that this must be done by WHO; we shall reply that this large organization is not supported by single men like pathologists are but it is working on a complete different scale. We are not very much interested in mortality statistics but in morbidity and actual incidence. Furthermore we like to work independently from such large international, overorganized and a little cramped administrative bodies. The society does not wish to be engulfed and wishes to remain a free corporation.

The questions that must be studied are still numerous on the plan followed by the society. 1960 we shall discuss in London on pre-eclampsia and eclampsia, using as statistical background the natality statistics. On the programme for further inquiries are the following subjects:

Leukemias. Segmental arteritis. Bright's disease (nephritis). Hypertension. Encephalitis. And again, cirrhosis of the liver because things have deeply changed in this matter since 1931, so that a reevaluation of this question would be of great interest.

Concerning organization of future work, a question should be mentioned which was asked many times: Can the society support an inquiry made by one single man on a definite problem? We have never been able to answer in the positive way and to support even in part financially applications of this kind, but we always were aware of the great importance such investigations may have. I know of two investigations of this kind, curiously enough both on the same subject: cancer of the liver and liver cirrhosis in African Negroes, one done by Professor Paul E. Steiner (Philadelphia) in 1957; the other one was a personal inquiry of mine done in French East Africa 1945 and 1948.

5. Suggestions: The lack of valid medical statistics must be stressed; of course, some countries have beautifully working morbidity registers for infectious diseases or recently organized very well working centers of cancer-registration (Denmark, France, Finland, U.S.A., Germany). We believe that a valid comparison of pathologic conditions is only possible with the aid of statistical material collected in similar fashion according to standardized principles and in the same period of time. Up to now, our society alone worked along this line on a larger scale, unfortunately without being in a position to

secure accurate material for the whole world, once more owing to the lack of comparison material for large portions of the world (especially for large and densely populated areas in Asia, Africa and South America). Furthermore, the chronic lack of funds always made larger inquiries very difficult.

For all these reasons, we do not believe that the potential for international scientific cooperation through our organization has been fully achieved. We should like very much to contact personally more people; this is the only way to get them interested; the lack of financial resources, as quoted above, is one of the main obstacles in our efforts.

Concerning CIOMS, we cannot answer your question properly; we pay each year a relatively high contribution (100$), but we received for each conference a most welcome grant amounting 1,500–2,000$ from this organization. Undoubtedly, CIOMS offers a great advantage for correlating the various meetings or congresses and especially for organizing smaller symposia. This last point should be strengthened and amplified because it is nowadays without any doubt the best formula for the deeper study of a definite scientific question.

Finally I take the liberty of giving two addresses of members of our society in U.S.A. who can add some details to the statement drawn above:

Professor Howard T. Karsner, M.D., Dept. of the Navy, Bureau of Medicine and Surgery, Washington 25, D.C.

Professor Robert A. Moore, M.D., President Downstate Medical Centre, State University of New York, 450 Clarkson Ave., Brooklyn 3, N.Y.

A friend of mine, interested in geographical pathology of cancer is Doctor Harold L. Stewart, Chief Pathological Section, National Cancer Institute, National Institutes of Health, Bethesda 14, Md.

Hoping that this answer will cover all you intended to know

I am

Sincerely yours,

Professor FRED C. ROULET, *Secretary General.*

INTERNATIONAL SOCIETY OF SURGERY,
Bruxelles, August 13, 1959.

DEAR SIR: * * *

Our "Société Internationale de Chirurgie" is a very ancient one, may be one of the first international societies founded and certainly the oldest in the field of surgery. It was founded in 1902 and has lived and prospered in spite of two world wars and several economic crises.

We have now roughly 3,000 members all over the world. Our selection is only on technical and ethical grounds. We do not take under consideration any political or philosophical considerations. We have members in Occidental Europe, in the Americas, in Soviet Union and countries behind the iron curtain. In each country we have a national committee which selects the applicants for membership. We are proud to count among our members the majority of leading surgeons in the world.

We are attentive to our recruitment among the younger surgeons and we have created a section of junior members.

We have six official languages and our bulletin is published accordingly.

We meet every two years in a large congress where surgical subjects are discussed. For instance in Munich we will discuss the grafts in general and conduct a series of meetings on various surgical subjects; nine sittings will be devoted to a forum where are discussed problems mostly experimental.

We publish after each congress partly in a volume (1,000 to 1,500 pages), partly in a bimonthly bulletin the papers delivered to our congress.

In your letter you request comments on our specific needs. We carry our activities with the subscriptions of our members who pay a stipend of $24 every two years. We have no financial difficulties with the administration of the society and our various publications.

The only point where we are often short of means is to meet the travelling expenses of scientists we like to invite to our congress in order to increase the scientific value of our meetings.

We would be better off also if we could in the preparation of the programme of our congresses gather the members of the programme committee and pay their travel expenses.

As a matter of fact our society does not engage in research but encourages it and offers to surgeons a large tribune and a wide distribution of the conclusions they have reached.

The number of papers, which will be read and discussed in our next congress (Munich, September 13–20, 1959) in the forum, amounts to hundred and forty. The majority of them is experimental.

You will find with this letter a english copy of our statutes. Our delegate in the United States is Professor Alton Ochsner, Ochsner Clinic, 3503 Prytania Street, New Orleans 15.

If you need any further informations about the "Société Internationale de Chirurgie" I will be glad to mail them to you.

I am, Dear Sir,

Yours very truly,

Prof. P. MARTIN, *General Secretary.*

INTERNATIONAL UNION AGAINST THE VENEREAL DISEASES AND THE TREPONEMATOSES,
Rome, 4 September 1959.

DEAR MR. HUMPHREY: Your letter of July 9th addressed to Dr. Andre Cavaillon has been forwarded to me for answer as Secretary General of the International Union against the Venereal Diseases and the Treponematoses.

We are most interested in the information which your letter contained regarding the work of your committee and the progress already made in the United States Congress toward the support of the Senate Joint Resolution 41. I am glad to submit to you the following information on the IUVDT as requested in your letter and hope that it will contribute to the very important study which you are making.

The union, recognized today as the international nongovernmental organization dedicated to combatting the venereal diseases and the treponematoses, was founded in 1923 in Paris, France, under the auspices of the League of Red Cross Societies. Basic aims and objectives of the union are—

1. to facilitate the study of questions relating to venereal diseases and treponematoses from the international point of view in order to ensure the carrying out of measures designed to prevent the spread from country to country;

2. to act as an agent for the collaboration of national organizations in combatting venereal diseases and treponematoses, with the objective of influencing coordination of activities and standardization of techniques for control of these diseases;

3. to aid in the centralization of information relating to research and to campaign procedures;

4. to encourage and assist in the organization by national and international societies of seminars and conferences on problems about venereal diseases and treponematoses;

5. to act as a pioneer in pressing for new activities;

6. to disseminate educational information on venereal diseases and treponematoses, stressing the development of attitudes and standards conducive to strengthening family life; and

7. to make known to governments, through national member agencies of the union, or through government representatives on the board of directors, or directly, the results of control programs, research and of all other important facts to strengthen the campaign against these diseases from both the international and the national points of view.

By 1923, agencies from 19 countries were ready to support the new international agency and became its charter members. Today this support has grown to 57 agencies in 40 countries.

HOW IT FUNCTIONS

The union is directed and administered by a board of directors representing its member agencies. Members of the board are elected by the general assembly which meets biennially.

The officers of the union serve as the board of directors. Between meetings of the council, they function as the executive committee.

Funds for the union's operation are secured from annual payments made by the member organizations and from grants and gifts provided by interested individuals and foundations.

United Nations.—The IUVDT has been granted official status with the World Health Organization and the United Nations Children's Fund (UNICEF) and maintains consultative status with the Economic and Social Council (ECOSOC). Liaison exists with UNESCO, ILO and other United Nations organizations interested in the union's objectives. These contacts enable the union to be constantly informed of the programs of these agencies and to represent in their meetings the points of view of nongovernmental organizations concerned with the problems of venereal and treponemal diseases.

Conferences.—In addition to its own general assemblies, the IUVDT participates in national and international meetings at which questions related to the prevention and control of the venereal diseases and treponematoses are considered.

WHAT IT DOES

The union has made specific resolutions at its general assemblies to assist and guide current thought. Some of these have stressed such subjects as the development of the Brussels agreement dealing with maritime VD problems; dangers of prophylaxis as giving false assurance; importance of education of the people and increased instruction of medical students and physicians in practice; social implications of the venereal diseases; dangers of drastic reduction in VD appropriations as false economy; importance of contact investigation, etc.

Information Service.—The union has prepared compilations of the "Anti-VD Laws of the World"; the regional office for Europe and the regional office for the Americas distribute bulletins and other publications.

Each office of the union serves as an international clearing house for all who are interested in securing information concerning VD and treponematoses. Proceedings of the general assemblies are published and distributed following each meeting.

Expert Consultation.—Officers, staff and other experts associated with the union make frequent visits to areas of the world where their counsel will be of value. The central and regional offices assist students and others traveling to study or observe venereal diseases and related programs.

Technical Appraisal and Development.—The union regularly contributes to and supports technical advances in the medical and social fields. Through special technical conferences and individual expert service, it cooperates in the fight against venereal and treponemal diseases.

In answer to your request for information on needs of the union, I would say generally that, as reflected by other international NGO's, our organization's greatest handicap is lack of financial resources. The union's biennial general assemblies could become more effective if financial means were found to bring to the meetings as delegates, not only the leaders in ministries of health, but also the personnel who are devoting full time to the VD and T program and who are working in the field.

Furthermore, with financial assistance, regional conferences could be held which would bring people together on a local level where similarity of problems could stimulate mutual programs and encourage participation of those persons working in the areas affected.

I note with interest your statement that appropriation made by the United States Congress for a National Institute of International Medical Research might include some assistance for international congresses and symposia. It is my opinion that such assistance would contribute greatly to the effectiveness of international NGO's as the aforementioned needs of the IUVDT would indicate.

As you may know, the U.S. member agency of the union is the American Social Hygiene Association, in New York. Dr. William F. Snow, for many years leader of the association, was a founder of the union and its president at the time of his death. Today the union's regional office for the Americas is operated by the International Division of ASHA whose director, Mrs. Josephine V. Tuller, is one of the assistant secretaries general of the union. The American group is planning to participate actively in the forthcoming general assembly of the union in October in London. Mrs. Tuller will be glad to supply any further information on union affairs which you may wish to have.

I sincerely hope that this information has been helpful and we wish you every success in your important endeavors to contribute to world health.

Sincerely yours,

Prof. G. A. CANAPERIA, *Secretary General.*

3. Specialized American Medical Organizations

Senator Humphrey. Within the United States is a vast number of specialized American medical organizations and the subcommittee has corresponded with officers of a great many. It would not be feasible for us to attempt to include the text of all the replies which we have received from these groups.

It is an undisputed fact that no organized body of medicine in the world contributes more to international medical teamwork than does the American medical profession. One of its foremost means is through its specialized medical organizations. In many instances, these organizations have long histories of outstanding association with colleagues abroad. In other cases, specific collaboration is relatively more recent. Some of the American organizations are directly affiliated with international organizations; others are not.

By their very nature, certain of the organizations have had an international focus. For example, the American Society of Tropical Medicine and Hygiene has a long and distinguished background of international contributions. Its comprehensive report herein reflects the deep interest of the society and the interests of similar groups with a basic international orientation.

SPECIAL ISSUES OF PERIODICALS

A number of medical organizations responded by forwarding special issues of their periodicals devoted in whole or in part to international health.

For example, Dr. Edward Jordan, of Charlottesville, Virginia, Executive Director of American Association of Medical Clinics forwarded the August 1960 issue of the Journal of the Association, "Group Practice," containing extensive coverage of international clinics.

This type of exchange of information through the use of American periodicals is an extremely important contribution to world knowledge.

The reports follow, arranged alphabetically by the exact title of the group.

American Academy of Ophthalmology and Otolaryngology,
Rochester, Minnesota, October 5, 1959.

Dear Mr. Humphrey: The September 24th Memorandum on International Medical Cooperation is informative in the fields of specialized medical research, training and practice that maintain national and international organizations. As an officer and administrator in several international medical organizations, I am pleased to comment on the questions with which the memorandum closes.

(1) The American Academy of Ophthalmology and Otolaryngology, founded in 1896, is the largest association of eye, ear, nose and throat specialists in the world—presently 6,737. The membership of the Academy consists of specialists most of whom are certified by the American Board of Ophthalmology and the American Board of Otolaryngology. Membership is held by citizens of Canada, Mexico, European, Asian and South American countries. This society is a nonprofit educational body devoted to education, research and physician training. The academy supports and conducts "Home Study Courses" (400 students) in the United States, Canada, Northern and Western Europe, and the academy also supports fellowships at the Armed Forces Institute of Pathology. The academy sponsors the publication of teacher's manuals, atlases of pathology, produces motion pictures, and special research committees. Our activities have been progressive for 63 years without financial aid from outside sources. This is dominantly an American society with international scope of activity.

We never had applied for financial assistance from the HEW nor other agencies.

(2) I have been directly affiliated with the following international organizations:

(*a*) Foederatio Societatum Ophthalmologicarum (founded in 1857), Secretary-General of the XVII International Congress of Ophthalmology, Montreal and New York, 1954.

(*b*) American Academy of Ophthalmology and Otolaryngology (founded in 1896), Executive Secretary-Treasurer since 1942. Editor in Chief of the "Transactions" and American Orthoptic Journal.

(*c*) Pan American Association of Ophthalmology (founded in 1940), vice president from United States of America. The Pan American Congress of Ophthalmology is held every four years. The VI meeting will take place in Caracas, Venezuela, February 1960. Interim meetings are held yearly in North America, Central America or in South America. Neither the association nor the congresses have received financial aid from U.S. Government agencies. The efforts of this highly ethical society could be augmented by assistance from the HEW.

(3) The HEW can materially assist in organization of international congresses by direct financial aid. The National Institutes of Health have provided limited assistance to eye, ear, nose and throat congresses: XVIII International Congress of Ophthalmology, Brussels, 1958, $35,000.00; International Congress of Otology, Washington, 1958, $50,000.00. Application for a grant for the VI Pan American Congress of Ophthalmology, Caracas, Venezuela, 1960 was not approved.

I have been actively affiliated with the American Medical Association (Chairman of the Section on Ophthalmology, 1936, and House of Delegates, 1949–1958). American College of Surgeons (one term) and I am a corresponding and honorary member of a number of foreign medical societies. I am also a member of the council, NINDB, HEW.

Through international medical cooperation the work now underway conducted by voluntary medical societies can be greatly augmented by assisting the organizations of established prestige by financial grants for travel, publication of proceedings, scientific papers and committee reports; international cooperative research committees sponsored by such societies should be encouraged.

Thank you, Senator Humphrey, for your efforts to improve international health.

Sincerely,

W. L. BENEDICT, M.D., L.L.D.,
Executive Secretary-Treasurer.

AMERICAN ASSOCIATION OF ELECTROMYOGRAPHY AND ELECTRODIAGNOSIS,
Rochester, Minnesota, October 19, 1959.

DEAR SENATOR HUMPHREY: The following is in reply to your letter of September 30 concerning international activities of the American Association of Electromyography and Electrodiagnosis.

The American Association of Electromyography and Electrodiagnosis:

Founded: September 1953

Members:

Honorary 8 physicians
Active 75 physicians
Associate 3

International activities.—The association is interested in exchange of information with persons and groups of other countries who are active in this special field of medicine. To foster such exchange, we have elected some persons of other countries to honorary membership and have kept them informed of our activities. We have been pleased at their response and plan to enlarge our honorary membership in the future.

A newsletter of the association is sent to persons in other countries who are active in this special field.

The association, itself, has no training activities. However, some of its members have trainees and fellows from other countries.

Affiliation with an international organization.—There is no international organization in this special field.

An international meeting of persons in this specialty would be desirable, particularly to foster the development of a standard terminology and recording procedure. In this direction, the American association has appointed a committee to review and recommend standards for terminology and technic in electromyography and electrodiagnosis at its next meeting. At a later date an international meeting to discuss this problem might be held in association with some organization, such as the World Federation of Neurology or the International Congress of Physical Medicine.

Recommendations.—There have been many examples of the value of assistance provided by the National Institutes of Health to international groups. I believe this should be continued. Such assistance could be of great value in the future development of international cooperation in our own special field.

* * * * * * *

Yours respectfully,

E. H. LAMBERT, M.D.

AMERICAN ASSOCIATION OF MEDICAL CLINICS,
Charlottesville, Virginia, October 27, 1959.

DEAR SENATOR HUMPHREY: * * *

In answer to your specific questions: 1. This association is actively engaged in studying and developing activities in the field of graduate and post graduate medical education and maintains a standing committee in this area. 2. This is actually an international medical organization since we have members in Canada as well as in the United States. 3. It is difficult to answer your question on what the Federal Government should or should not do in relation to helping strengthen international collaboration but I think I can assure you on behalf of this association that it would be happy to help, when asked, individuals or organizations in other countries in any field in which we were qualified. In this connection, should group practice develop in other countries, we should doubtless be pleased to give any special information which we had available based on the long experience of many of our members.

Sincerely yours,

EDWIN P. JORDAN, M.D.,
Executive Director.

THE AMERICAN ASSOCIATION FOR THORACIC SURGERY,
St. Louis, Missouri, March 8, 1960.

DEAR SIR: This will acknowledge with my thanks your memorandum concerning matters of interest in international health which is dated February 3, 1960.

In a more direct reply to this memorandum we would appreciate being retained on your mailing list for any releases that you may deem pertinent.

More indirectly we would like to state that as an organization we have no direct interests in matters of general health, being as we are an association whose object it is to encourage and stimulate investigation and study that will increase the knowledge of intrathoracic physiology, pathology and therapy, as well as to correlate such knowledge and in some form disseminate it.

This is done rather exclusively by means of our annual scientific sessions, and through the Journal of Thoracic and Cardiovascular Surgery, which is our official organ. This does not mean in any way that we are unmindful of our broader spheres of influence and do participate in international affairs to a limited extent.

Specifically we sponsor and support a traveling fellowship, The Evarts A. Graham Memorial Traveling Fellowship. This is open to young thoracic surgeons from Europe. These candidates are nominated by their local, or regional, thoracic surgical society. Our last fellow was from Holland. Thus, our international contacts are through this fellowship, the purpose of which is to bring a well-trained thoracic surgeon from abroad to this country for additional experience and training in a center of his choice. We do not engage in matters, however, of general health.

Sincerely yours,

HIRAM T. LANGSTON, M.D., *Secretary.*

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION,
Philadelphia, Pa., October 5, 1959.

DEAR SENATOR HUMPHREY: I have received and read with interest your literature and the publications of the International Health Study. This seems to be a most worthwhile undertaking and I think the help of the Federal Government to promote international good will through the medical field should be continued. We look upon limited assistance to international medical groups with favor, provided these groups seek help from the Federal Government for their undertakings.

Our organization has approximately 50 corresponding members in foreign countries. The foreign members are chiefly from Latin and South American countries, although Europe, Japan, and Australia are represented. To date we have sponsored no fellowships or training activities under our direction.

The American Broncho-Esophagological Association is not directly affiliated with an international medical organization in our specialty, but cooperates with international organizations whenever possible.

I thank you for keeping us informed of your progress.

Yours sincerely,

F. JOHNSON PUTNEY, M.D., *Secretary.*

THE AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS,
Philadelphia, Pa., November 5, 1959.

DEAR SENATOR HUMPHREY: Your letter concerning the activities of your committee has been forwarded to me. The American College of Obstetricians and Gynecologists is very interested in your activities and anxious to cooperate. I would appreciate being put on your mailing list for present and future publications.

In response to your specific questions, the following committees may be of interest. The present international activities of the college consist in membership in the Fédération Internationale De Gynécologie Et D' Obstétrique. We also participate in the congresses of this organization from time to time. I do not know of any specific way in which the work of this international organization can be strengthened.

One of our recurring problems that may interest you in the evaluation of medical degrees received in foreign universities and the evaluation of residencies and other training in the specialty of obstetrics and gynecology. At the present time, it is very difficult for us to accurately evaluate such degrees and training.

It is my personal belief that the National Institutes of Health should continue to provide assistance to international medical groups.

I will discuss the activities of your Subcommittee on Reorganization and International Organizations with the other officers of the college and communicate with you should there be any developments.

Assuring you of our interest and support of your very valuable activity, I remain,

Sincerely yours,

CRAIG W. MUCKLE, M.D., *Secretary.*

THE AMERICAN COLLEGE OF PHYSICIANS,
Philadelphia 4, Pa., October 16, 1959.

DEAR SENATOR HUMPHREY: * * *

In answer to your three specific questions, (1) the American College of Physicians has served activities in the international field since 1949. In cooperation with the W. K. Kellogg Foundation, Latin American medical schools, the medical schools of the United States and Canada, and the U.S. Department of State, we have established a program for postgraduate training of physicians from Latin American countries. Approximately 7 to 10 such fellowships are granted annually. We feel they have been most helpful in fostering improved standards of the teaching of internal medicine in the Latin American countries. There is a Canadian traveling scholarship which is for the purpose of allowing young men from Canada to travel to medical centers in this country for additional training.

(2) Although the American College of Physicians is not directly affiliated with the International Society of Internal Medicine, it does work in close liaison with this organization whose headquarters, I believe, are in Switzerland—2, Med. Abteilung, Burgerspital, Basel.

(3) It is a very firm opinion of mine and shared, I think, by many physicians that the National Institutes of Health should make their programs of aid to foreign countries through established medical organizations in this country. Almost all of the specialty organizations in the United States have cordial relations with international specialty organizations similar to the one mentioned above.

The work done by the State Department through programs such as the Point Four Program in which medical schools in foreign countries are strengthened is probably a very good idea. I traveled in Korea in the summer of 1958. One outstanding example of a medical school which is run by a cooperative group of American missionary groups and is also supported by some private foundations in this country is the Severance Medical School in Seoul, Korea. Dr. Earnest Weiss is the medical director, and there are just enough American doctors on this staff to give supervision and advice to the native professors in the different departments. You may be interested to know that the heads of departments have almost without exception been trained in medical schools and institutions in this country. When I last heard from Dr. Weiss earlier this year he needed a relatively few thousands of dollars to open a new plant outside the main part of the city. I really believe that aid to this kind of institution, which is not dominated by their comfort, is the best possible way of strengthening medical education and improving the standards of medical care in this pathetic country.

Sincerely yours,

EDWARD C. ROSENOW, Jr., M.D.,
Executive Director-Elect.

AMERICAN FEDERATION FOR CLINICAL RESEARCH,
New York, N.Y., May 31, 1960.

DEAR SENATOR HUMPHREY: I am authorized and directed by the Council of the American Federation for Clinical Research to respond to your memorandum of February 3, 1960, addressed to "Medical Organizations", copy of which was sent to the American Federation for Clinical Research.

In your memorandum, you requested the suggestions of this organization as to what our members feel the future policy of the U.S. Government should be on overseas medical research and medical assistance.

The council held its Annual Meeting in Atlantic City, New Jersey, on April 30, 1960, and authorized the following response to be made to your requests:

The American Federation for Clinical Research would endorse the principle of the U.S. Government encouraging and supporting overseas medical research. The federation would be glad to participate in any such program in which our assistance would be desirable.

The following avenues of approach seem to us worthy of consideration:

1. The U.S. Government might make grants to individual medical schools in the United States to support exchange programs directly negotiated between each such U.S. school and foreign counterpart.

2. Specific research programs might be developed between a U.S. and a foreign medical school with reference to the peculiar problems of the particular country.

3. U.S. Government grants might conceivably be made to a U.S. medical school for the purpose of helping to establish a new medical school in an underdeveloped country where one is needed and local conditions are suited to such a development.

4. U.S. Government financial aid to foreign research might involve direct grants for research, by admitting foreign applicants to the NIH study sections for review and approval of grant requests for such foreign applicants, under the same procedure as now applies to domestic applicants.

5. Alternatively, the U.S. Government might propose that an international agency be set up with a review mechanism comparable to NIH, and that U.S. financial support of foreign research be channeled through this international body.

6. U.S. Government grants might be made directly to universities and research institutes in foreign countries to:

(*a*) provide funds for American scientists to go and work for one or two years in the foreign institution;

(*b*) provide funds for foreign scientific workers to come and work for one or two years in U.S. laboratories.

7. U.S. Government grants might be made to foreign universities and research institutes for the purchase of American periodicals and books for translating services for American scientific publications, when necessary. As a corollary, grants should be made to some agency in this country for translation of foreign scientific publications.

8. The citizenship requirements for regular NIH fellowships and traineeships should be removed as unnecessary and inconsistent with the goals of this study.

Respectfully submitted.

JAMES E. BRYAN, *Executive Secretary.*

THE AMERICAN GASTROSCOPIC SOCIETY,
Rochester, Minnesota, October 6, 1959.

DEAR SENATOR HUMPHREY: Thank you for your letter addressed to me as the Secretary-Treasurer of the American Gastroscopic Society.

This organization consists of about 200 physicians who are interested in gastroscopy and esophagoscopy. Most of these men are primarily gastroenterologists, and we almost invariably have our meeting in conjunction with the American Gastroenterological Association. Our organization is so small that it has no international connections.

It is my own belief that much can be accomplished by fostering model relationships between medical organizations in our country and those in distant lands. I have personally had the opportunity of attending international congresses and I certainly feel that such meetings have helped to cement good relationships between the United States and other countries.

Very sincerely yours,

A. M. OLSEN, M.D., *Secretary-Treasurer.*

AMERICAN PSYCHIATRIC ASSOCIATION,
Washington, D.C., August 3, 1959.

DEAR SENATOR HUMPHREY: I have your letter of July 13 and want to congratulate you and your colleagues for what you have been doing to promote and facilitate international medical research, particularly in this session of the Congress. Our association is on record, as you know, as favoring the International Medical Research Bill and some of our people have already testified in its behalf.

I suppose that no medical specialty is more concerned and enthusiastic about promoting international cooperation in medical science than our own. It is truly astonishing, in our field, how many of the major therapeutic weapons that we now use in the struggle against mental illness have come from abroad: electroshock treatment, the ataractic drugs, insulin shock, the open hospital idea, psychoanalysis and others—all came to us from Europe. We in this country seem to have a kind of genius at seizing upon these developments and refining them far beyond their original condition, but the need for being in touch with scientific developments all over the world from day to day is manifest.

In the simplest terms, international exchange and cooperation in science is achieved by means of international scientific meetings, the international distribution and translation of scientific publications, the exchange of scientific personnel among the different laboratories of the world, by personal correspondence among scientists, and by personal visitations on the part of scientists to other countries for observation, lecture and discussion with their colleagues.

It would probably be fair to say that all major professional organizations have relied on these various methods by promoting international exchange and cooperation. Our own association, for example, has some 150 corresponding fellows in most of the advanced countries of the world. Our scientific journal occasionally publishes articles received from abroad. We have a Committee on

International Relations which, each year, plans a program in which visiting foreign psychiatrists participate at our annual meeting. Many of our own members visit abroad each year and sometimes write reports which are published and distributed to our members. Frequently foreign psychiatrists come here on lecture tours which we help arrange. In these ways there is a modicum of effort to achieve international cooperation.

It is, of course, not enough. Professional associations such as ours are handicapped, naturally, by lack of funds to do much more; and if our situation is financially stringent, it is perfectly clear that the situation of our colleagues abroad in this respect is a thousand times more so. For example, to take a simple matter, we get requests from doctors every day in such countries as Korea, India, Thailand, Japan, Israel, and the like, asking for any kind of medical literature whatsoever that they could obtain without charge to put on their barren library shelves. We can respond to their requests only in a very limited way. My guess is, however, that by appealing to our members we could collect 10,000 books in a few weeks time for shipment abroad to these handicapped medical centers that have no foreign exchange to acquire them otherwise. But this would require considerable administration and expense on our part which, as a relatively small professional society, we are not prepared to undertake in addition to all the other projects we are attempting to do. I merely mention this as a minor example of the kind of difficulty one runs into in seeking to promote worldwide cooperation in science. By comparison with this example, one obviously encounters far greater complications when one considers the distribution and translation of pertinent journals, the promotion of international scientific meetings, and the like.

As for specific recommendations on ways and means of strengthening worldwide cooperation with particular regard to the role of the Federal Government, this, it seems to me, calls for the highest priority of attention in the national interest, and it is eminently gratifying to witness the leadership of people like yourself conferring such a priority on us. I am not prepared to spell out specific programs which the Federal Government might undertake to further international cooperation, but it does seem to me that in view of the inherent limitations of the organized scientific professions that the Federal Government must, at some point, step in with grant support that will help these societies to extend vastly their international activities. Of course, I am speaking for myself in this letter and yet I feel quite certain that if the issues were put to them that virtually all leaders in our profession would endorse this position. Indeed, if you have no objection, I will call your letter to the attention of all of our members through the monthly newsletter which we issue and I would hope that several of them might write to you their sentiments in the matter.

With all good wishes, I am,

Sincerely,

MATHEW ROSS, M.D., *Medical Director.*

AMERICAN RADIUM SOCIETY,
Atlanta, Ga., May 14, 1959.

DEAR SIR: * * *

The American Radium Society can be classified as an international medical and allied professional organization since its membership includes qualified individuals from Canada, South and Central America, England, France, Sweden, Denmark, Switzerland, and India, as well as approximately 400 physicians and physicists from the United States. The society does not, however, function as a research organization, but as a group for the exchange of ideas. We would like to go on record as supporting the international health study in which your committee is engaged but we are probably not in a position to contribute directly to your study of world medical research and international medical service.

Sincerely yours,

ROBERT L. BROWN, M.D., *Secretary.*

AMERICAN SOCIETY OF PLASTIC
AND RECONSTRUCTIVE SURGERY,
Salt Lake City, Utah, October 6, 1959.

DEAR SENATOR HUMPHREY: * * *

As indicated to you in the previous communication, we in the American Society and the American Association of Plastic and Reconstructive Surgery are interested in the furtherance of education and in the exchange of informative facts in our profession. In this regard and in answer to your questions I would make a brief comment or two.

Your first question, "What may be the international activities of your own medical organization?" The American Society of Plastic and Reconstructive Surgery participates every four years with other plastic and reconstructive surgical societies in an International Congress of Plastic Surgery. In 1959 this Congress was held in London and four years previously in Stockholm, there having been only two thus far. In 1963 it is planned that the forthcoming Congress, on an international basis, shall be held in this country and probably in New York City or in Washington, D.C. This Congress comprises in time, a week; in scope of presentation, a most wide variety of problems of congenital, traumatic, sequela malignancy and cosmetic problems; and in participation, a scope on an international basis.

Question No. 2, "Are you directly affiliated with an international medical organization in your specialty?" The answer to the first essentially answers the second question, and the second part of your question as to how such can be strengthened lies in the further development of the program under its present protocol or such changed protocol as indicated by the geography and the current international research presented for consideration at the Congress.

Your third question, "What do you believe the Federal Government should, or should not do, in relation to helping to strengthen international collaboration in your field?" May I speak as an individual and not officially for the society, for I have not had the opportunity to bring this problem before our executive committee, but I would feel that it would be compatible with our overall thinking to state that any assistance in exchange of personnel in our educational endeavors or the assistance by the Government of such a Congress as mentioned above on the year that it is held in this country might be worth your consideration. As you already know from our previous communication, we participate in a research and scholastic program with other centers throughout Europe and other sections of the world in our educational interests. It might be of interest to you to know that this year, indeed two weeks from now at our Annual Meeting, a first prize will go to a Japanese fellow for research that he has done in artificial bladder construction. This award in our senior classification will go to Naohiko Harada of Osaka, Japan, while other awards go to individuals in Pittsburgh, New York, and in our junior classification, a first award will go to Mr. Thompson of Sheffield, England for his work with dermis grafts.

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Sincerely,

T. RAY BROADBENT, M.D., *General Secretary.*

UNIVERSITY OF PENNSYLVANIA,
Philadelphia, Pa., January 22, 1959.

DEAR SENATOR HUMPHREY: * * * you addressed a letter to Dr. R. B. Hill, Secretary of the American Society of Tropical Medicine and Hygiene, in which you called attention to the activities of your Subcommittee on Reorganization and International Organizations of the Committee on Government Operations of the United States Senate and cordially invited the society to describe its work and to make recommendations. Dr. Hill forwarded your letter and enclosures to me as Chairman of the Committee on Public Relations of the society with the request that our committee comply with your request.

* * * * * * *

I now have the honor to present to you and members of your committee the enclosed statement which also contains a number of general recommendations.

For the society, may I express our sincere appreciation for the opportunity to make our views known to you and your committee and at the same time wish you every success in dealing with the momentous problems before you.

Respectfully yours,

TOM F. WHAYNE, M.D., *Associate Dean.*

STATEMENT OF THE AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, PREPARED BY INVITATION FOR THE SUBCOMMITTEE ON REORGANIZATION AND INTERNATIONAL ORGANIZATIONS OF THE COMMITTEE ON GOVERNMENT OPERATIONS, UNITED STATES SENATE

The American Society of Tropical Medicine and Hygiene is a small society which bands together the experts in the broad field of tropical medicine. It includes clinicians, preventive medicine experts, research scientists, veterinarians, sanitary engineers and others. Within these broad professional groups there are those who have specialized as malariologists, parasitologists, microbiologists, entomologists, nutritionists, malacologists, technical experts in environmental control and others.

The society meets once each year to engage in a broad scientific program in which members and others are invited to report on significant research and experience in many fields. Foreign physicians and scientists are represented in the membership and they also may participate in the scientific program. Additionally, there are annual honorary lectureships and sponsored prizes for the most significant contributions to the field of tropical medicine.

Besides the usual organizational structure, the society is guided by a council and functions in part through a number of committees. The council is concerned with the general efforts of the society, whereas the committees study and advise on special problems and functions. Examples of the latter, for instance, are the sponsoring of appropriate proposals for governmental programs in support of research and disease prevention and control, improvement of teaching and research in tropical medicine, and the development of plans and programs for training experts in a number of scientific disciplines.

CONTRIBUTIONS OF THE SOCIETY

Some of the contributions of the society, chosen at random, are as follows:

(*a*) Sponsoring the exchange of students in the general field of tropical medicine and the establishment of a graduate training program. Based upon the studies of a committee of the society, the China Medical Board was induced to support a fellowship program in tropical medicine and parasitology under the general supervision of Dr. William D. Frye, Dean of the School of Medicine, Louisiana State University.

(*b*) Through a resolution the society called attention to the potential hazard of yellow fever which has been creeping up the Central American isthmus and which might be transmitted via fishing boats or air travel to our Southern States where the mosquito vector of this disease exists in abundance. As a result, considerable action has been taken by the United States Public Health Service and the health departments of the States concerned to avoid this occurrence.

(*c*) The society gave support to and helped in the planning of a broad program on the eradication of malaria in the Western Hemisphere. The result of the program has been the eradication of malaria in substantial areas and the promise that eradication can be accomplished throughout the hemisphere.

(*d*) A committee of the society has considered needs for research on pertinent communicable diseases and tropical medical problems and annually has endorsed the allocation of Federal funds for support of research through grants-in-aid programs of the National Institutes of Health. One member of this committee appeared before Senator Lister Hill's subcommittee of the Committee on Labor and Public Welfare in 1956 and gave a résumé of pertinent medical problems in or related to tropical medicine. While much progress has been made in research here and abroad on some of these diseases, they nevertheless remain the more important diseases for which prevention, control, and treatment need further elaboration.

The society, in addition to serving as a forum for international discussion of science and medicine as they apply to tropical environments, also publishes a scientific journal which has a large distribution in this country and abroad.

Because the membership of the society is not large, and because of the intense interest and fervor of many for the development of knowledge in the field of tropical medicine, an intimate and personal relationship has grown up which has included the members from foreign countries. While it is not possible to estimate the value of such international relations, undoubtedly the close personal friendships and the mutuality of interest in science in this special field have served to bring about better understanding.

SCIENTIFIC AREAS IN NEED IDENTIFIED

The American Society of Tropical Medicine and Hygiene does not feel that it is in a position to make recommendations concerning the organization, functions, and achievements of national or international bodies having to do with health. It would, however, like to delineate several areas in which it is believed that practical, expeditious, efficient, and timely effort is urgently needed if progress in the field of international health is to develop adequately.

(*a*) Medical intelligence and information: While there is much exchange of scientific information by individuals, institutions, organizations, and through other means, there still is a great need for the development of better methods for the exchange of health, research, and medical information between nations. Language barriers as well as political barriers exist, and the cost of translating and abstracting is not inconsiderable. Consideration might be given to the development of an international medical literature abstract and exchange service which, with support from interested nations, could fulfill this need. Perhaps such a service could be established and supported within the framework of an already existing international organization.

(*b*) Exchange of student and research personnel: A number of private and governmental agencies now support the exchange of students and research personnel. It would seem that a greater exchange should be encouraged and that there should be greater coordination of effort between the agencies sponsoring these exchanges.

(*c*) Training of foreign students in American medical and public health institutions: As a general statement it can be said that American medicine is in a position of world leadership today. Foreign medical trainees look to American medical institutions in this country now in the same way that we looked to European medical institutions at the turn of the century. The opportunity for foreign undergraduate and graduate students to train in medicine and public health in this country not only has its reward in providing these students with the best available medical and health training but it is also a tremendous asset in international relations. At the present time our medical schools are under pressure to meet the needs for physicians in the United States. According to the Bayne-Jones Report the expected growth of our own population will require that several additional medical schools should be established within the next 15 or 20 years. There are, nevertheless, enough demands for admission of medical students from foreign countries to our medical schools to justify an exploration of ways and means to provide for a greater number of qualified and carefully selected students on a continuing basis.

(*d*) Graduate training in Public Health and Tropical Medicine: For a number of years the American schools of public health have admitted large numbers of foreign physicians and health experts. At some schools in some years foreign students have made up as much as 30 percent of classes. These students have taken the regular courses leading to the Master of Public Health degree but also have been given the opportunity for elective courses which frequently have been in the general fields of epidemiology and tropical medicine. Many have come as experts in these fields and therefore with the purpose of perfecting themselves in public health practice. The impact of these students has been of great mutual benefit. We have taught them and have learned from them; warm personal friendships have been established; and most of these friends of the United States have gone back to their countries as public health experts. In general these students from foreign countries have been carefully selected and represent the best the country has to offer, and in general, also, they have returned to their countries to occupy important positions in national or international health organizations. One school has established a course to prepare teachers of preventive medicine in medical schools of foreign countries and this too has been a significant and rewarding development.

The point must be made, however, that public health practice, basic control of the environment and, indeed, the prevention and control of communicable diseases cannot be carried out in many foreign countries in complete accord with practices in the United States. Thus, there is need for the development of technical schools or training programs in health practice in many foreign countries through which the knowledge of these returning experts can be passed on to health workers and technicians in the light of local problems, customs, habits and culture. This need must be fully recognized in any review of or plan for effective international health activities and more especially in the general field of the prevention and control of disease in tropical environments.

(*e*) International medical meetings: The value of properly planned international medical meetings has become more and more apparent. These meetings or congresses have been held to explore a number of different fields, for example, the International Poliomyelitis Conferences, the International Congresses on Microbiology and others. The American Society of Tropical Medicine and Hygiene has been particularly interested in the International Congress on Malaria and Tropical Medicine which convenes every five years. The latter congress was held in Washington, D.C., in 1953. The reports of its scientific presentations, conferences and other activities filled two large volumes. The opportunity for the personal exchange of views, the development of new friendships and the renewal of old was of intangible but undoubtedly equal value.

It is believed that any review of international health activities should take into consideration the benefits to be derived from such congresses and that appropriate governmental support should be provided for appropriate congresses as indicated.

(*f*) Program for the eradication of malaria: In the wake of the development of antimalarial drugs and residual insecticides during World War II, it has become increasingly possible to think in terms of eradication of malaria, not only in an area or a country, but on a continent. Only a few indigenous cases of malaria have occurred in the United States since shortly after the end of World War II. It has been completely eradicated on the island of Puerto Rico and in British Guiana, and large areas of Venezuela are now malaria-free. In the Old World large areas also have been freed or essentially freed of malaria, for example, Italy, Sicily and Greece. It is, therefore, fair to say that we have the technical knowledge and the trained personnel, and the equipment and the chemical agents can be provided for the eradication of malaria on a country-by-country basis at least in the Western Hemisphere.

The desired results, however, are not so simple as that each country carry out its own eradication program whenever it can provide the people, money, and things to do it. Contiguous programs must be planned so that there is as little opportunity for reinfection as possible. More importantly, evidence is beginning to accumulate that certain species of the anopheles mosquito vector of malaria are developing resistance to DDT and other insecticides. Moreover, it is not sufficient to decrease malaria transmission to the point where there is only an occasional case at the end of a given period: surveillance must continue indefinitely.

Thus, if the great social and economic burden of malaria is to be lifted, time, intergovernmental cooperation, money and trained people become very important. It is the firm belief of the American Society of Tropical Medicine and Hygiene that no international effort in the health field has more importance than a timely program for the eradication of malaria. It believes that the United States Government should cooperate fully in these efforts through its own medical resources, through international health organizations and through cooperation with the health agencies of other nations.

(*g*) The World Health Organization. Since the First World Health Assembly in 1948, progress in the prevention and control of communicable diseases, the improvement of environmental conditions, nutritional status and health practices and procedures in many other areas have progressed well indeed, especially when the limited funds made available to the organization are considered. Much yet remains to be done. The results in health education of peoples and the better education of professional health personnel have been monumental contributions. Moreover, the opportunity for annual exchange of knowledge and international consideration of mutual problems have sponsored friendship, trust and cooperation among the health representatives of many nations.

To one who attended the First World Health Assembly which was characterized by ineptness, reticence, and even suspicion, the completely different atmosphere at the Sixth Assembly in 1953 of mutual trust, friendly greeting, and hard and successful work to solve international health problems suggests that this part of the United Nations has made and is making contributions toward understanding and perhaps peace that go far beyond the technical aspects of health and medical practice.

It is, therefore, the belief of this society that our Government should continue to lend full support, including adequate financial backing, to the efforts of the World Health Organization.

THE ASSOCIATION FOR THE ADVANCEMENT OF PSYCHOTHERAPY,
New York City, February 23, 1960.

DEAR SENATOR: This letter is in response to your memo of February 3, 1960.

The Association for the Advancement of Psychotherapy would like to be placed on the mailing list with regard to the subcommittee's "Study of International Medical Research and Medical Assistance". We would appreciate receiving any past publications which may still be available.

The Asocition for the Advancement of Psychotherapy was founded in 1939. It is a medical organization which provides a forum from which all schools of psychiatric and psychotherapeutic thought may be heard. The association's publication organ, "The American Journal of Psychotherapy," has a very broad international following. Our subscribers may be found in most parts of the world in which even very basic psychiatric facilities may be found. Our journal supplies up-to-date information as to research and practice in the field of psychotherapy to a wide audience in this country and abroad. In the near future we plan to add a section to our journal entitled "Psychiatry in a Changing World". In this section, prominent psychiatrists from foreign countries will be asked to present extensive surveys of the psychiatric practices in their countries. This will make our journal an important reference source for the dissemination of information concerning the practice of psychiatry in cultures foreign to our own.

It is our belief that the United States should provide all possible assistance necessary to aid medical research performed overseas, with the proviso that all results be made freely and promptly available to American physicians and researchers. Wherever possible coordination with and supplementation of projects initiated in the United States should receive first consideration.

Please consider that our association and publication would like to cooperate with your committee in all possible ways.

Sincerely yours,

STANLEY LESSE, M.D., *Secretary-Treasurer.*

ASSOCIATION OF AMERICAN MEDICAL COLLEGES,
Evanston, Ill., September 23, 1958.

DEAR SENATOR HUMPHREY: * * *

The Association of American Medical Colleges is not involved very heavily in international activity. The association makes no grants or funds to agencies or for programs outside of the United States.

The association numbers in its membership the 12 medical schools of Canada, the University of the Philippines and the American University of Beirut.

The association also publishes the "Journal of Medical Education," the only journal in the world devoted exclusively to this area, and sends about 700 copies a month to foreign subscribers outside of the United States, including Canada, the Philippines and many other foreign countries.

In order to increase its foreign circulation, the association has been receiving small grants from three American foundations: Macy Foundation, Rockefeller Foundation, and China Medical Board.

Almost every issue of the journal contains an article contributed by a foreign medical educator, which describes something of medical education in his country. Recently we published a special issue of the Journal in Spanish for circulation in Central and South America and Spain.

I am enclosing a copy of this special issue together with a copy of the last issue which contains an article on medical education in Africa.

The Association of American Medical Colleges has a Committee on International Relationships, which works with both private and Federal agencies that are concerned with international programs.

None of these activities, however, involves spending funds outside the continental United States.

I believe this completes our present list of activities that have any foreign interest.

Most sincerely yours,

WARD DARLEY, M.D., *Executive Director.*

THE HARVEY CUSHING SOCIETY, INC.,
Rochester, Minn., February 16, 1960.

Memo to: Senator Hubert H. Humphrey.

The Harvey Cushing Society, as such, has no international organization or international activities. However, we do have active members from adjacent countries in North and South America and corresponding members from various parts of the world. We also have several honorary members from foreign countries. Many of these foreign members attend our meetings which are generally held within the continental limits of the United States.

We find that this association is mutually advantageous not only medically, but we all get the impression that much is accomplished in the way of better understanding of political problems as well as medical problems.

I think that the exchange of visits and ideas by medical men in various countries is an extremely important method of obtaining better understanding by these segments of the population of the respective countries and it seems to me that every opportunity should be created to provide visits by good representatives of our profession to other countries and to provide for bringing foreigners of the medical profession to this country.

H. J. SVIEN, M.D., *Secretary.*

INTER-SOCIETY CYTOLOGY COUNCIL,
Brookline, Mass., October 7, 1959.

DEAR SENATOR HUMPHREY:

* * * * * * *

The Inter-Society Cytology Council has a total membership of 586 of which 100 are international members. There are an additional 21 international applicants who will be elected to international membership at our annual meeting in Detroit, this November. The Council, therefore, is in an excellent position to help promote international activities in the field of cytology. Cytology, as you know, has made tremendous strides in the past decade in the field of early cancer diagnosis. Some types of cancer found by this method can be discovered and treated when they are 100 percent curable.

* * * * * * *

Very sincerely yours,

PAUL A. YOUNGE, M.D., *Secretary-Treasurer.*

SOCIETY FOR PEDIATRIC RESEARCH,
Cincinnati, Ohio, October 12, 1959.

DEAR SENATOR HUMPHREY: * * *

The Society for Pediatric Research would, I am sure, heartily endorse worldwide cooperation in the medical sciences in the forms set forth in your memorandum. The society, however, as it is presently organized, has little direct relation to international medical organizations. It has no training activities or fellowships. In conjunction with other pediatric organizations in this country, it does send a representative to meetings of the International Pediatric Congress. Meetings of this organization are held every 3 years under the auspices of the International Pediatric Association. The next meeting will be in 1962 in Lisbon, Portugal. This year a grant of $50,000 was transferred to the Congress through the Society for Pediatric Research. This fund was granted by the U.S. Public Health Service for use of foreign investigators for travel funds to attend the Congress. The Society for Pediatric Research was simply the agency in the United States selected by the Public Health Service as the "middle man" in this transaction. This summarizes to date the official international activities of the society.

I should like to say more about the International Pediatric Congress. This fills a large need, it is felt, in pediatric communication, and should be encouraged and strengthened. The association sponsoring it has few funds of its own and lives a hand-to-mouth existence. Assistance to this organization would do much to improve the effectiveness of the Congress and reduce the worry of its sponsors.

Thank you for your interest in this problem and for contacting us in the matter.

Yours sincerely,

CLARK D. WEST, M.D.

4. Individual Specialists in Five Biomedical Areas: (A) Cancer; (B) Epilepsy; (C) Genetics; (D) Nutrition; (E) Accidents

Senator Humphrey. As we are all aware, the field of medicine is characterized by increasing specialization. More and more our scientists concentrate by exploring deeper and deeper into particular diseases, or organs, or organ systems.

I believe that we of the Senate can gain a better understanding of the problems of medical science if we, too, will specialize our focus. For this purpose, I have selected from the files of the subcommittee correspondence dealing with five significant problem areas of biomedical science.

There are, of course, literally scores of other problem areas which might have been included or which might have served as alternatives. But the five which I have selected are:

A. Cancer—the second deadliest killer in the United States;

B. Epilepsy—a disease which has been subject to an ancient and unjustified stigma;

C. Genetics—a dynamic field which is literally revolutionizing entire areas of science.

D. Nutrition Research—which plays a crucial role in man's well-being.

E. Accident Research—a fast-developing field in view of the staggering toll from mishaps.

To this list might have been added excerpts from our extensive files on such medical specialties as arthritis, mental disorders, gastroenterological problems, and a broad range of other specialties.

I believe, however, that the five illustrative areas which we have chosen will serve our purpose. They will show how scientists seek to come to grips with these particular challenges.

These five areas are, it must be reiterated, not intended to represent the "most important problems." They are significant, but are designed here basically for purposes of illustration.

A. Correspondence with cancer specialists

Cancer, as we pointed out in our Fifth Committee Print, inflicts a universal toll. From the very inception of our study, we have devoted a great deal of attention, therefore, to the scourge of malignant neoplasms.

During our subcommittee hearing, we had the benefit of direct testimony by Dr. George N. Papanicolaou, famous for his work in cytology. The anticancer battle is, however, so varied in its nature that we would want this record to contain as much information as possible on this particular disease. In our record, therefore, we print the text of correspondence as it has been received from a number of cancer specialists with whom we have been in correspondence all over the world. Many of these specialists have written on the opportunities for strengthened collaboration in geographic pathology in particular. Others have written on other phases.

No one, I believe, will read this correspondence without a feeling that there is a great deal more which should and must be done in epidemiology and other fields to help bring under control this terrible disease. This fact is underlined in the Staff Memorandum on the International Union Against Cancer, reprinted on pages 804–816 ff.

The letters are arranged alphabetically by name of country:

CHILE

INSTITUTO DE MEDICINA EXPERIMENTAL,
Santiago, May 13, 1959.

DEAR SENATOR HUMPHREY: I thank you most sincerely for your kind letter of March 18th which reached me with a considerable delay. Surface mail takes about a month to reach Chile.

I congratulate you and the Subcommittee on your fine determination to increase the help of your Government to oversea medical research, and I am touched by the privilege of being consulted on the cancer problem.

I will try to answer your question as fully as possible in this letter but I am also preparing a more detailed report which I hope to send you soon.

Obviously the only way to find a solution to the cancer problem is through research even though this may result in the discovery that there is no solution, at least for all the different types of cancer. So it is urgent to stimulate the interest of young people for research. How to stimulate this interest? By improving the quality of teaching in the schools, with good teachers and adequate buildings with the best equipment for teaching. How may this be achieved? With money. In any case not without money. I believe every country has enough money to develop educational campaigns with emphasis on the scientific aspect. A more rational distribution of money would be sufficient. In my country, for example, about 25% of the national budget is spent on the armed forces. But maybe, the armed forces problem is as difficult to solve as the cancer problem.

The great development of science and technology that we are witnessing today is resulting in considerable improvements in the social-economic conditions and health, implying prolongation of life.

* * * * * * *

If a cancer cure has not been found in the meanwhile, cancer will become an increasingly grave problem for mankind. As Mr. Rivers said: "I was pretty close to the final reckoning last spring. In fact, if it weren't for penicillin, I wouldn't be here. Pneumonia, the old man's friend. Now they resuscitate you, so that you can live to enjoy arteriosclerosis or your cancer . . ." (From "The Genius and the Goddess" by Aldous Huxley. Bantam Books, Montreal, p. 6).

So it is absolutely necessary to stimulate in a *special* way the research on cancer. How to attract the best brains to enter the field of experimental cancer research? The intelligent people, including those who believe in life after death, realize that it is more convenient to enjoy life in this world and to have spiritual, cultural and material satisfactions. Most of these satisfactions cannot be obtained without money. It is necessary to give the best salaries to the cancer research men. In our institute which is the best in Latin America in cancer research, there are four vacancies for M.D. which have been impossible to fill. Why? Perhaps due to the fact that the salary for a beginning M.D. is about US$200 monthly. And maybe young doctors know that the Director of this Institute, a famous man, one of the pioneers in the field of cancer and hormones and author of many books, Prof. A. Lipschutz, at the age of 76 doesn't have a car of his own to go to the laboratory. I, myself, working twenty years in cancer research, never could go to an International Cancer Congress because of lack of money, although I have sent papers which have been considered important. To your country I could go, thanks to good American friends and to the generosity of American institutions. On the other hand, the young doctors know that the clinicians working in human cancer have good cars, enjoy life in every aspect, go to congresses abroad, and travel around the world. Not long ago a Chilean clinician cancerologist said to me smilingly: "Please do not discover that cancer cure yet. I need some five years more to consolidate my economic situation".

Good salaries should be paid also to technicians and other people who work in cancer research. I have seen even in your country the case of a good technician who decided to move to a job in the pharmaceutical industry because of a better salary.

Of course it is not enough to pay good salaries for cancer research. Comfortable buildings with laboratories with modern equipment and adequate animal houses and sufficient budget to run the whole household of a laboratory are likewise essential. These institutions should not depend on private help. The following is an excerpt taken from "Cancer News," Vol. 13, No. 2, p. 18, 1959 (published by the American Cancer Society) and should not be allowed to

become a reality: "The American Cancer Society, if present trends continue, will have to reject in 1959, because of lack of funds, some of the applications for research recommended by our scientific advisors for support. During the last two years the Society has had to reject $1,685,958.00 worth of applications, recommended for support, because we did not have enough money. We need millions more for research."

Now, how to get sufficient funds to carry out these ideals? I believe it would be not impossible to convince people throughout the whole world that it is urgently necessary to spend money in the fight against death (against cancer) which is an actual calamity, since they accept the idea of spending money to maintain armed forces which in the final analysis exist primarily to destroy life. My country maintains armed forces for the potential danger of a war. During 80 years we have had no war and the danger of war would not exist if our neighbours with the same mentality had not their own armed forces.

But I can suggest another way to obtain plenty of money to fight against cancer. As it is known, the big increase in the frequency of lung cancer is related with smoking. Should it be too much to ask every smoker as a special contribution in the form of a tax to fight against a disease, for which he is happily preparing himself, for a quantity in money equivalent to the amount he spends on the part of the cigar or cigarette he leaves unsmoked? I believe if your Congress would approve a law on this matter, many countries in the world would follow the example. With the funds obtained by this procedure we would have money not only for cancer research on its multiple aspects, but also to give immediate help to human cancer.

Now back to reality. What to do at the present time?

(*a*) To provide economic help to all the laboratories throughout the world which are working in cancer research.

(*b*) To provide these laboratories with modern comfort so that it might be possible to invite foreign scientists to work in such institutions.

(*c*) To make available money to invite such scientists and provide them with adequate equipment for work in their special field of cancer research. This would be a way to spread new techniques, leaving equipped laboratories with trained personnel.

(*d*) To provide enough money to improve the salaries of the people working in cancer research.

(*e*) To provide money to send cancer research people to work in foreign laboratories and to send researchers to International Cancer Congresses.

What to do next? When the present laboratories are working in a satisfactory manner then it is necessary to create new institutes for cancer research in those countries where there are none. These institutes must be free of teaching obligations and with a staff working fulltime. They must be created by the National Health Service of such countries and not by the universities.

Will cancer cures be found if mankind selects the best brains and spends as much money as has been spent in manufacturing atomic bombs or launching satellites?

I am not sure.

But I think this is the only way to proceed.

Thanking you for the honor of being consulted in this matter by you and the subcommittee of which you are the chairman, I am

Very sincerely yours,

RIGOBERTO IGLESIAS, M.D., *Subdirector.*

SERVICIO NACIONAL DE SALUD,
Santiago, September 17, 1959.

DEAR SENATOR: I have here with me your memorandum from July 22 and the publication "Cancer: A Worldwide Menace." We are here very much concerned about the cancer problem although its volume is proportionately lower than in your country and we still have other important causes of death as, for instance, tuberculosis and infant mortality.

Some time ago I was surprised to find a book on Chile published as far back as 1848–52 by the U.S. Naval Astronomical Expedition to the Southern Hemisphere (vol. I., Chile). A similar surprise has been your memo as I found out that the U.S. Senate is interested in the problem of cancer and not only on a national level.

On my last visit to the United States I had the opportunity of examining the organizations against cancer of the Federal Government in Washington and of the States of New York and New England. Through that experience I have been able to establish in this country a national cancer registry, so far the only one in Iberoamerica. I hope our cancer registry will contribute in a small amount to the research of certain particulars of cancer morbidity and mortality in countries of low living standards. For example we have much higher mortality of stomach cancer, as can be seen in the included graph. More details are in a paper of mine which is in the hands of the editor of the Journal of the National Cancer Institute.

I sincerely hope that the growing interest in cancer will continue and therefore more and more resources will become available for research and for fighting cancer until the moment we shall find the causes of it. The Senate of the United States can certainly do a lot in this way and, allow me to say, you have been very lucky to have in your hands such an important mission.

Yours truly,

Prof. Dr. JUAN MORODER.

CUBA

[Translation (Spanish)]

CUBAN CANCER SOCIETY,
CURIE HOSPITAL,
Havana, September 24, 1959.

DEAR SENATOR HUMPHREY: Through the intermediary of Dr. Félix Vargas García, Secretary of the National Medical College of Cuba, I received your "Memorandum to International Medical Leaders," in answer to which I take pleasure in stating:

(1) I feel that, along general lines, the health programs of the U.S. Government Departments signify a positive and laudable effort toward the improvement of world health, but that their final success will depend on:

(*a*) Broader publicity being given to the objectives pursued and methods put into effect by seeking to enlist the interest not only of the official departments and agencies of the various countries but also of their private scientific institutions, philanthropic organizations, individual physicians, and even of the public in general;

(*b*) Making it possible for the results obtained at the theoretical and experimental levels to be rapidly translated into positive benefits for the health of the peoples;

(*c*) Statistical compilation and study of the reports on realized projects of a theoretico-experimental nature as well as pertaining to practical application, for subsequent broad distribution in readable form, easily understood by the public.

(2) Cooperation in medical research can be accelerated by the liberal implementation of the points stated in the Memorandum, i.e., symposiums, seminaries, exchange of programs, broad distribution of bibliographies, etc.

The effectiveness of such activities would furthermore be greatly intensified if the following points were taken into consideration:

(*a*) Endowment of the above activities with a character of permanence and broad publicity being given to their existence;

(*b*) As regards the removal of the "language barrier," an effort should be made to provide safeguards, insofar as possible, by attempting to present the message, course, or seminary, in the "mother tongue" of those to be benefited, or, if this is not feasible, by making use, whenever possible, of the modern simultaneous translation systems;

(*c*) As regards the recognition of the "barrier of" local or regional "idiosyncrasy," the professors and lecturers should be fully conversant not only with the "scientific subject" but also should, furthermore, have made an effort to familiarize themselves with the general characteristics of the country and its inhabitants, thereby multiplying the effectiveness of their message.

(3) As for the *obstacles* in the path of international medical cooperation, they should, in my opinion, be specified as:

(*a*) The ideological and political antagonisms among the nations, which generate distrust and hinder the dissemination of ideas and the exchange of acquirements in the field of science;

(*b*) The economic status of the less developed nations, which limits—due to lack of funds—the medical activity to the level of practical application and of merely attention to the immediate needs of public health, not permitting physicians and scientists to devote themselves—even on a part-time basis—to the study of medicine at the experimental level.

As a physician specializing in the study of cancer, I shall take the liberty of briefly explaining the situation in Cuba as regards the fight against that disease. In order to do so, it is indispensable to state, first of all, the record of the League against Cancer—a private nonprofit institution—during its 30 years of existence:

(1) Due to the efforts of the league, the State is offering, at the level of diagnostic and therapeutic attention, appropriate services by way of a chain of institutions, or hospital centers, devoted to the study, treatment, etc., of cancer exclusively, which, with a view to the scientific results obtained, excel along general lines in all other aspects of hospital care in our country. The centers referred to are:

In Havana: "Curie Hospital," with 250 beds; Juan Bruno Zayas Institute," with 60 beds; "Francisco Domínguez Roldán Hospital" with 75 beds.

In Santa Clara (Las Villas Province): "Dolores Bonet Clinic," with 50 beds.

In Camaguey (Camaguey Province): "Cancer Hospital," with 50 beds.

In Santiago de Cuba (Oriente Province): "Enrique Schueg Clinic," with 100 beds.

(2) As to the dissemination of medical information among the public relative to the cancer problem, due to the efforts of the league the public is kept current on the possibilities of an early recognition of the symptoms of the disease and regarding the effectiveness of proper treatment applied in time.

(3) The league has provided ways and means, on the clinico-experimental level, which would enable cancer specialists to contribute to the clinical evaluation of diagnostic techniques and therapeutic methods by setting up for these purposes a statistical information organization which should bear valuable fruit.

(4) At the level of experimental investigation, the league has made available ways and means for facilitating studies of special interest, especially on the problem of the connection between tobacco and cancer. Otherwise, this type of activity has been limited.

In spite of the net results indicated above, it is evident that in Cuba there is still much left to be done. In this respect, the most urgent medical needs in the field of cancer research would be:

(1) Perfection of the medical aid services by expanding the network of anticancer hospitals and complementing it with diagnosis centers distributed all over the country;

(2) Expansion of the campaign for informing the public as well as of medical training by coordination of these activities with those in other countries;

(3) Promotion of an experimental plan under which it would be necessary:

(a) Training, in appropriate foreign centers, of personnel equipped to tackle, among others, the biophysical and biochemical problems which are so essential to gaining knowledge on the subject of cancer;

(b) Establishment of a highly specialized institute, or center, with laboratories and equipment which would permit a scientific investigation of the clinical and experimental aspects of cancer.

(4) Economic means which would permit not only taking care of above points but also of the remuneration of truly specialized scientists devoting themselves exclusively to their specialty.

In closing, I wish to give expression to my warm approval of the legislative measures proposed by you and your collaborators in the Senate of the United States of America (Senate bill and "Marshall Plan for Medical Research"). I am sure that, upon approval of your motion—so anxiously desired by all of us—the authorities of my country will gladly lend their cooperation to such noble efforts in the field of international public health.

Hoping that the opinions expressed by me will be of some use to you, I remain,

Very sincerely yours,

Dr. GUILLERMO HALLEY,
Outgoing President of the Cuban Cancer Society.

EGYPT (UNITED ARAB REPUBLIC)

ABBASIAH FACULTY OF MEDICINE,
Cairo, Egypt, U.A.R.

DEAR MR. HUMPHREY: Thank you for your letter of March 18. The answer to your question has two standpoints: One pertaining to cancer research throughout the world and the second to cancer research in my own country.

For promoting cancer research all over the world an international organization for pure cancer research might, perhaps, be suggested. Such an organization will probably meet the calls for pure cancer research much more directly and adequately than the International Union Against Cancer. The U.S. Government should make the largest contribution in money and facilities for this organization.

Regarding my country, a unit for pure cancer research has been set up immediately after my return from the United States last year. However, this unit is still deficient in trained personnel and equipments and this, in my judgment, does provide an instance of "What should the U.S. Government do in order to strengthen research which will help conquer the cancer problem throughout the world".

It cannot be the purpose of this letter to enumerate the projects on some of which we have already embarked in our unit; but something like a delegate's visit or a visit from me to concerned authorities in United States will offer a good chance for collaboration which will help put these projects into quick action.

Cancer of the bladder is commoner in Egypt than anywhere else and is responsible for 40 percent of all cancers in the country and has thus become a national problem. An experimental study on the etiologic relationship between this cancer and bilharzial infestation provides an example of a most hopeful project which suits the country.

Looking forward to hearing from you, I am,
Sincerely,

YASIN A. GHAFFAR, M.D.

KASR-EL-AINY FACULTY OF MEDICINE,
Cairo, Egypt, May 24, 1959.

MY DEAR MR. HUMPHREY: I was greatly honored and deeply touched by receiving your letter dated March 31, which reached me only yesterday.

I would like in the first place to express my great appreciation to the effort your subcommittee is undertaking to help speed the conquest of cancer, a common enemy of all mankind. This is really a grand human move toward a far-reaching goal, a move worthy of your great American Nation.

If I may be allowed I would like to convey to your person, Mr. Humphrey, my deepest regards and respect for taking the lead in that very noble drive.

I am very willing to put all my effort, though meager it may be, under your disposal if I can be of any help in this respect.

I will study the two prints you sent me and try to furnish all the desired informations and suggestions for the conquest of cancer in our country and otherwise, in the best of my capacity.

In this rapid, preliminary reply I would like to mention the following:

The mortality from cancer in Egypt is estimated to be about 35,000 to 40,000 annually (population, 24 million). Considering the deficiencies in our statistics this estimation may be on the low side.

Our commonest cancers are cancer of the breast in females and cancer of the urinary bladder in males.

Cancer cases have been obviously increasing during the last 10 years, most probably due to improved methods of diagnosis and rising medical standard.

This last observation has attracted the attention of our Government to the cancer problem in our country. During the last year the Science Council in Cairo was preparing the 5 years plan for research and scientific needs of the United Arab Republic during the period 1959–64. One of the 12 medical and public health problems to be studied and planned for was the cancer problem. I was chosen to put down the draft for that plan which was later discussed and approved.

I am sorry that it is printed in Arabic but I will be sending you a copy of it with a translation of its main outlines with my next letter.

Sending you my cordial wishes for success and my kindest regards, I am,
Sincerely yours,

A. L. ABOUL NASR.

CAIRO, EGYPT, *June 29, 1959.*

MY DEAR SENATOR HUMPHREY:

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I would like in this letter to bring to your attention a difficulty that confronts scientists and research workers in our country and, most probably, in similar countries and where the United States of America may be of great help. This concerns the scientific and medical literature whether books, periodicals or special publications.

I think that there is no doubt that the United States of America is the leading country in science and research in our present time and that the American scientific and medical literature is foremost among the world literature. There is no doubt that this literature is quite essential for scientists and scientific bodies. But unfortunately the high costs of American publications and currency difficulties make it very difficult to procure a proper supply of the literature whether by scientific institutions or scientists. This is especially the case when recent, rapidly developing branches are concerned as cancer, virus diseases, cardiovascular diseases etc.

In a faculty of medicine where the main importance is given to the mother departments as surgery, medicine, anatomy, physiology, etc., these developing branches or recent "specialities" get a very meager help from the library budget. So most workers in these fields have to procure their literature on their own accord as far as they can.

Personally I pay an average of about 30 to 40 Egyptian pounds a month which is half my month's salary to buy scientific literature, mostly American. I can only do this because I have a private income. For others it may be difficult.

So I would like to suggest that to facilitate the spread of American scientific knowledge two things may be done:

(1) To put a special rate for the dollar for scientific literature, about one-fourth to one-third the usual rate.

(2) To permit the payments for this literature in each country's own currency.

The resulting financial deficit may be partially compensated by (*a*) preparing less luxurious copies of the books, periodicals, etc.; (*b*) wider distribution and increased sales to be expected.

Such a plan will have a mutual benefit. For the importing countries it will be a great help for the scientists and will speed their scientific progress. For the United States it will help secure a greater and wider diffusion of its science and scientific methods and better knowledge of its scientific efforts and progress. On the whole it will be a very impressive, well-appreciated way of presenting the honorable, valuable, but ill-advertised efforts of the United States in the development of scientific progress of our present civilization.

I am working part time on the Board of Experts in the U.A.R. Science Council. I showed your letter to the president of the council and he was very appreciative of your honorable aim and instructed that I will furnish you with all information you desire.

In my next letter I will try to explain how the plan of scientific development in the U.A.R. during the next 5 years was worked in the Science Council with a special reference to the plan for medical sciences, including cancer. I will only say now that it has been agreed to start erecting a cancer institute in Cairo in 4 years starting from 1959–60 budget where about one-third of a million dollars have been included for the purpose.

I will be very grateful if you can send me some of the literature about the organization of scientific research in the United States especially in the medical research, the organization of cancer institutes and research units and groups and their interrelations, etc. I have been trying for some time to get the series on "Pathology of Tumors" published by the Armed Forces Institute for Pathology. I bought the series and paid for it. It was sent over by Dr. Hamilton to the NEMRO in Cairo to deliver it to me. Through some misunderstanding of the librarian in the NEMRO it was entered into its library and considered Government property. When I talked to the Director of the NEMRO, then Dr. Gallaway, he said that it was a mistake as the covering letter was not noticed. He promised that he will get me a new series instead of the one I bought but he was later transferred from Cairo. If it is necessary I am ready to pay for it a second time.

I may be having the chance to visit the United States early this autumn. I have been nominated by our faculty to attend the Congress on Medical Education to be held in Chicago August 30 to September 4, 1959.

If the faculty can arrange the problem of the necessary fund for the journey with the university I hope to stay a few weeks in your great country. I will then be very pleased to have the honor of meeting you personally. I will be looking forward for that moment.

With my kindest regards and respect, I remain,

Sincerely yours,

A. L. ABOUL NASR,
Vice President, UICC.

FRANCE

[Translation (French)]

VILLEJUIF, *March 16, 1959.*

DEAR SIR: The reading of the papers, which you were so kind as to entrust to me concerning the possibility of establishing closer collaboration on the international level in the fight against disease, has suggested to me, first of all, the following replies to the two basic questions posed by you. They will concern, essentially, cancer which is my principal preoccupation:

(*a*) "What can or should be done to accelerate the fight against cancer * * *?"

There are in France at this time five specialized centers which are equipped for cancer research. They have their problems, of course, but they have an adequate staff, for the present, of researchers qualified to study these problems, and are provided with the basic elements to furnish the necessary documentation.

What they essentially need are funds for developing their research. To permit the extension which some of the studies undertaken merit—more particularly, some extremely recent original efforts such as the induction of tumors by nuclear acids—two obstacles must be overcome:

(*a*) The first concerns larger quarters. This is not the biggest obstacle, and it may be overcome with financial aid from different interested administrations, although this aid may be slow in coming through and a very small amount for each year. It is possible, however, to alleviate this obstacle by makeshift methods, using premises not foreseen for research purposes, such as basements, warehouses, annexes, etc., in which it is always possible to install, after a fashion, a researcher and his assistants.

(*b*) Much more important is the problem of operating costs; i.e., of the annual expenditures covering the salaries of the staff and the purchase of the necessary materials. It is on this point that, regardless of the subsidies that may be given to each research group, considerable difficulties arise every year, for the funds allocated are never adequate and never to be counted on from one year to the next.

Besides these two essential problems, the most important of which is that having to do with operating costs, it would seem that with a view to encouraging stepped-up cancer research, there should be more symposium-type meetings or colloquiums, organized within the framework of the International Union for the Fight Against Cancer. These meetings have already produced excellent results and they might be increased in number if arrangements could be made to pay the travel expenses of the participants. One of the best methods at hand to ascertain the extent of progress made with regard to specific problems is to have a small number of specialists, belonging to the various disciplines which enter into the study of a given problem, sit around a table together.

(*b*) "What can or should be done to strengthen the fight against cancer in countries like Asia, Africa, etc. * * *?"

It seems to me that in those countries the essential problem is to make a record of the cancers which appear there, not only quantitywise but also distributionwise according to localization of their foci. This can be done with the aid of morbidity investigations according to techniques already tested.

Up to the present time, little information has been gathered in these underdeveloped countries due to the lack of qualified personnel for making these investigations, and also due to demographic difficulties which make it hard to accurately pinpoint the composition of the population.

A very particular effort should be made to make those investigations in the localities which have been selected as pilot areas. We must not overlook the fact that this would necessitate the sending to that area of specialized personnel trained not only in medicine but also in demography; that investigations of this

type require several years in each locality and that the teams so trained may later be transferred to another area.

It is very important not to wait too long to get these investigations underway, for the "progress of civilization" is gradually going to attenuate the differences which may appear among different regions of the earth and thus make disappear the data that might be of the greatest interest at this time.

(*c*) A question, which has not been taken up directly in your memorandum but which, it seems to me, would merit attention, is how the feeling about this problem of cancer registration might be taken up. Several years ago, through the intermediary of the C.I.O.M.S., a Geographic Pathological Year was proposed during the course of which, in as many parts of the world as possible, a certain number of diseases could be recorded whose diagnostic conditions would make their listing with a minimum margin of error possible.

Cancer was included in those diseases. The apparatus which would be set up might be used for a number of pathological disorders. It seems to me that it would be of great interest to reconsider that idea, for not only would it be of great technical value but it would certainly make it possible, because of the competition created thereby, that different loans could be obtained which have heretofore not been made available for investigations of this type.

It seems to me that in France, in particular, the financing of such an investigation, embracing the recording of cancer prevalence in certain segments of the population, would be facilitated if this were done on the occasion of an International Geographic Pathological Year.

These are the points which your memorandum has suggested to me and which, by way of answering your kind invitation, I have taken pleasure in specifying for you.

Please accept, dear sir, the expression of my best regards.

Prof. P. F. DENOIX,
Director, Institut Gustave-Roussy, 16-bis, Av. Paul-Vaillant-Couturier, Villejuif (Seine), France.

GREECE

CANCER INSTITUTE,
Thessaloniki, Greece, April 27, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for your letter of March 16, 1959. I feel very honored that you kindly have addressed to me among the "outstanding cancer specialists." I feel also very happy because the initiative of the U.S. Senate and especially of your committee feels that the cancer problem will be solved in a much shorter time, for the benefit of all humanity, on the basis of a close creative international cooperation. This is my belief too. I was always converging all my efforts and a great part of my research work toward this goal, namely the evaluation of all creative brains of cancer researchers in the world in a close cooperation. A facet of this was my activities at the National Cancer Institute as head of the unit of geographic pathology.

In your question "what, in my judgment, should the U.S. Government do in order to strengthen research which will help to conquer the cancer problem throughout the world" the following will, at my opinion, guarantee a sound investment and, maybe, decisive success in your efforts:

The U.S. Government should give generous support to cancer research institutions of foreign countries. The funds should be, of course, granted to institutions and scientists proficient in cancer research and scientific work generally. The researchers should be left free to carry out the research on any subject they feel important to them without any feeling of being rushed. Several of them could participate in broad projects on an international basis. The individual results will vary but nevertheless the overall achievement could even surpass the most optimistic expectations from such a broadminded project as your subcommittee conceived.

We must realize that the problem of cancer will be solved not only with the application of refined technical means and tools but in the first place by new ideas, by the creative imagination of scientists in different places of the world and by the evaluation of data which are pertinent in their own countries. As an example let us see the requirements of Greece for the evaluation of the capacities of Greek scientists and of the research material which is specific and may be unique in this country.

Greece is a good example of how a small country with very limited financial possibilities for cancer research work, with, however, a good stock of young scientists, eager to evaluate their mental capabilities in pure research work, could contribute in the project of international cooperation in cancer research.

Through private and governmental funds it is now in construction in Thessaloniki, Greece, the "Theagenion Memorial Cancer Institute." I have been appointed director of this institution which will be affiliated with the Aristotelian University Medical School. The building under construction is planned to be finished during 1960. It will comprise a cancer hospital with about 150 beds and laboratories for research work. Diagnostic and therapeutic activities have been placed in first plan because of the urgent need in this country to fight against cancer, a disease coming first in frequency and mortality.

Cancer research has been placed in a second stage because of immediate lack of funds. It will take quite a time and waste of effort for us, cancer researchers, to get the means and tools and personnel. This waste of time and energy should be of course accounted as a deficit on the international effort in cancer research. Your help could eliminate this deficit giving us the tools and the means to start, possibly immediately, research work in cancer. Roughly the funds necessary will not go over $100,000 for scientific instruments etc. and $20,000 a year for salaries for scientists doing full-time research work and experimental material (animals, chemicals, and so on).

This, dear Senator, may give you a more precise picture of how I visualize the help which the United States could give to foreign cancer institutions, and in order to mobilize manpower in cancer research where now the talent, knowledge, and precious time of cancer researchers is wasted in struggling to get funds and help for their research work.

Very sincerely yours,

A. SYMEONIDIS, M.D.

ICELAND

UNIVERSITY OF ICELAND,
Reykjavik, July 8, 1959.

DEAR MR. CAHN:

* * * * * * *

To me it is a great pleasure and deep satisfaction to realize that a special committee of the U.S. Senate is furthering cancer research by its profound interest in the cancer problem, which is now the greatest medical problem of our little world. Up to the present the general trend of the governments of the great powers of the world has been to spare no money to develop the forces of destruction to the utmost limits. It is a saddening fact that all governments have always been willing to spend money for the preparation of destroying human lives, but those whose task has been to conserve them had to struggle hard to obtain a necessary minimum for their activity.

It is, therefore, really heartwarming to realize that your committee is building up steam to attack this problem on a grand scale.

International biomedical cooperation might be very helpful in this respect, for many of the most valuable facts about cancer we have learned from geographical pathology, like the tremendous frequency of mouth cancer in India, where they chew betel nuts wrapped in tobacco leaves, the well-known high frequency of lung cancer in the Schneeberg mines in Bohemia, the Kangra cancer on the abdomen of people in Kashmir, the absence of cervical cancer of the uterus in nuns against its frequency in multiparous women, the high frequency of skin cancer in Mexico, Australia, and Texas, where the skin is more exposed to intense sun radiation, to mention just a few examples.

Here our great problem is stomach cancer, which seems to be more frequent in this country than in any other country with exception of Japan.

We are in connection, and have been for years, with Memorial Center of New York, especially Dr. Rhoads, Dr. Wynder, and Dr. Day, who are interested in the high frequency of stomach cancer against the very low incidence of lung cancer.

Recently, I tracked the stomach cancer cases in three adjoining districts in the southwest part of this country. Stomach cancer seems to occur there at a rate of about 10 times the average incidence in the United States. I am beginning to suspect smoked food as a cause of gastric cancer, and the difference in lung and stomach cancer might be explained by the fact that you have inhaled the smoke, but we have eaten it.

This is an oversimplification, but we are working along this line, both as regards collection of data on the diets of cancer patients and also with animal experiments.

Next month I am going to have a series of informal conferences with the workers at Memorial Center when I come to New York from Chicago. I know that they are as happy about your interest in cancer work as are all sincere workers in this field all over the world.

I wish you and your committee all possible success in the field you have entered, and feel sure that you will derive a deep satisfaction from your work toward the solution of one of the most important problems of our times.

Yours sincerely,

NIELS DUNGAL.

UNIVERSITY OF ICELAND,
Reykjavik, October 19, 1959.

DEAR MR. CAHN:

* * * * * * *

Enclosed I am sending you a short survey of our main medical problems, how most of them have been solved and how we are now confronted with an old and increasing one, namely cancer, and a new one, which is really becoming serious, as in so many other countries, namely, coronary occulsion.

A third problem of which we know much less, but which may be of considerable importance, is osteoporosis.

I am mainly concerned about cancer, especially stomach and lung cancer, of which the first may be said to be our main medical problem at present and the second looms as a grave danger in the near future.

Owing to special conditions in this country, both of these forms of cancer may be more easily accessible to research into its causative agents than in many other countries. The reasons for lung cancer are given in the enclosed survey, but a few words about stomach cancer may explain what I mean:

(1) The population of Iceland is, especially in the country, a sessile population. It is relatively easy to obtain information in each locality on diseases and cause of death of each inhabitant.

(2) The diet has been simple and monotonous and is so for a great part still. Rich in proteins, milk, and carbohydrates, but very poor and almost devoid of vegetables and fruits.

(3) There seem to be special regions, apparently related to amounts of salmon and trout fishing, where stomach cancer has been more frequent than in other places. This may have to do with greater consumption of smoked food.

(4) There is undoubtedly a statistically significant higher rate of stomach cancer among the farming population in the country than among sailors and fishermen along the coast.

I am very much interested in having a thorough survey of the country made for this purpose. If interviewers were sent out to all parts of the country to collect precise information on every case of stomach cancer wherever it has appeared, and obtaining precise information of the incidence rate of cancer in each community for the last 30 years, I am convinced that we would get some very valuable information out of it, especially with regard to the connection between cancer and diet. I think five people should be able to cover the whole rural part of the country in 2 years, at a cost of about $40,000 per year, or a total cost of $80,000, of which transport is a very considerable part, as each one has to have his own automobile.

Such a survey should be able to give information on (1) special localities where cancer is unusually frequent (Is this frequency genetical or environmental?), (2) connection between diet and stomach cancer (Is a nutritional defect present in cases of stomach cancer, or is there a special food or a special treatment of food which may cause it?).

As to the different question of genetic influence, we are fortunate in this respect in this country, where genealogy is highly estimated and widely studied by a great number of people.

Our Iceland Cancer Society, of which I am president, is greatly interested in this kind of research, and we are always prepared to do everything in our power to further cancer research, with our limited means.

Your interest in this matter will stimulate our activities, and we should be most pleased to hear from you at your convenience.

Yours sincerely,

NIELS DUNGAL.

Possibilities for Medical Research in Iceland

(By Prof. Niels Dungal, Department of Pathology, University of Iceland)

Iceland is an island a little bigger than Ireland, but very thinly populated, the total population being only 170,000, of whom 70,000 live in Reykjavík. The people live only along the coast, almost exclusively from sheep breeding and cattle farming for milk production and in smaller villages also to a considerable extent from fishing, which is the main industry of the population and almost the sole source of production for export, for which trawlers and smaller, engine-propelled fishing vessels are employed from various places all around the country, but most concentrated in the regions around Reykjavík. The returns of the fishing industry, which now has to a great extent gone over to preparing frozen fillets of various kinds of fish for export in the fresh state, and only to a smaller degree depends on producing salted and dried cod for sale in Roman Catholic countries, like Italy, Spain, Portugal, Cuba, and Brazil, are so substantial that they allow importation of a great variety of consumer goods, making the standard of life as high as in most other European countries.

Although much food has to be imported, among which is all grain for human and animal consumption, the supply of fish, meat, milk, cheese, and eggs is always abundant. Nutrition surveys have shown that the Icelandic population consumes more protein than any European nation.

The people are strong and healthy, infant mortality is lower than in most other countries (18 to 22 percent) and usually vies with Holland and New Zealand for the lowest rates. Up to the present there has been a constant lack of fruits and vegetables, as no fruits can be grown in the country, but more and more vegetables are being grown now and tomato production is abundant in the many greenhouses which are heated with water from natural hot sources. Yet we may say that even now there is a constant lack of citrus fruits and green vegetables in the diet of the general population.

Owing to the long dark nights in winter there is a prolonged deficiency in sun-ray stimulation of the skin, and even in spring and autumn the temperatures are so low that clothing prevents irradiation of most of the skin in young and old. Owing to this lack of sunshine effect, there is a pronounced tendency to rickets in children, but in the last two decades this tendency is systematically counteracted by giving cod-liver oil to all children and also to pregnant mothers.

Yet osteoporosis (brittleness of bones) is very common, especially in older people, and as older people usually do not take cod-liver oil or any other D-vitamin sources, it is possible that this condition, which seems to be more common in Iceland than in many other countries, may be due to lack of sunshine and especially to insufficient exposure of the skin to light and sun.

Diseases.—At the beginning of this century the population was suffering severely from Hydatid disease (cystic disease of liver, caused by a tapeworm from dogs), tuberculosis, leprosy, typhoid fever, and diphtheria.

These diseases have now all been stamped out, with the exception of tuberculosis, which, however, has been brought so far down as to be no problem any more. In 1930 we lost 230 people from tuberculosis, but now only 4 to 6 a year, and in 1958 the mortality was only 2.5 per 100,000.

Our great problem now is cancer, which has increased considerably, partly from the better hygienic conditions, which enable people to reach a higher age, but apparently also there is a real increase in cancer morbidity and mortality, as has been shown in many other countries.

Our second great problem is coronary occlusion, which has increased enormously during the last 15 years.

These two diseases may be said to be our two main health problems at present. Let us look a little closer at both of them:

1. Cancer.—The distribution of cancer in this country is peculiar in some respects: (1) We have the highest rate of stomach cancer in Europe, and apparently the second highest in the world, after Japan. (2) We have a lower rate of lung cancer than most, if not all European nations. (3) We have a low rate of skin cancer.

The explanation of the low rate of lung cancer and skin cancer is easy: Our population started smoking later than most European nations, and not until 1945 did cigarette consumption reach 1 pound per inhabitant, a mark which Great Britain had passed in 1915, leading all other nations in that field with a yearly consumption of 1.49 pounds in 1920, followed by Finland with 1.34 and Austria with 0.87 pounds. Our cigarette consumption now has passed 3 pounds per

inhabitant per year, and we expect our wave of lung cancer to sweep the country in the next two decades. We are doing what we can to influence the young generation to abstain from smoking, but that is no easy matter.

Lung cancer is already showing distinct signs of increase. Among 1,939 necropsies from 1933 to 1948 we found only 12 lung cancers, or 0.6 percent of all autopsies.

In 1956 we found 6 in 279 autopsies, and in 1957 we found 8 in 273—14 in 552, or 2.6 percent.

In 1958 we found only 2 lung cancers in 295 autopsies, but this year we have already found 7 in 284 autopsies.

From now on we must expect lung cancer to increase from year to year. If it does, it will be one of the best proofs of the causative relationship between smoking and lung cancer, because air pollution, which is being blamed in many industrialized countries, is practically unknown here, where all houses are heated with hot water from natural hot sources, and the air is purer than in most other places, as has been shown with machines which measure air pollution, which showed our air to be purer than in any other city in Europe where measurements were made.

Skin cancer is low simply because the skin of our people is less exposed to sun radiation than that of most other people.

2. *Coronary occlusion.*—This disease has increased immensely in frequency here during the last 20 years. From 1930 to 1940 we saw only one to four cases a year in our autopsies but now we have them every week. And the hospitals get so many of them that our medical people and many others also are getting alarmed at the rapidly and constantly increasing incidence in coronary occlusion.

We have seen some cases which point to a genetical cause, but apparently environmental causes are of greater importance.

The attention of the medical world has during the last two decades been focused on the fat content of the diet and the cholesterol content of the blood. As cholesterol esters are precipitated into the walls of arteries in the first stages of arteriosclerosis it was thought that a high fat diet, leading to increased cholesterol in the blood, would be the main cause of arteriosclerosis, including coronary sclerosis.

This explanation does not fit in well with our experience in Iceland. We have for centuries been living on a diet very rich in fat, mostly mutton fat, which as saturated animal fat should be dangerous in this connection. Yet we have had considerably less arteriosclerosis and especially coronary sclerosis than most other nations, including the American people. It is not until the last 15 years that coronary sclerosis has shown a definite increase, and especially during the last 10 years. This increase in coronary sclerosis has started much later here than in most European countries and in America, where this tendency was marked in the thirties.

Smoking may be an important causative agent in coronary sclerosis, and may reach far to explain the change which has taken place in our country, but the matter is not quite so simple as that. We have seen some cases in people who never smoked, and at least in some of these people a genetical factor seemed to be at work. The changed life habits may also enter this picture, as for instance the fact that much fewer people are working hard and burning up their fat than 50 years ago, when manual labor was much more common than now. There is no doubt that coronary sclerosis is more prevalent among white collar workers than among manual laborers, who burn more calories. In general people exert themselves much less than formerly, not only with manual labor, where machines have taken over, but also in general life, where lifts and escalators save them the exertion of ascending and automobiles from walking. They have therefore a much less opportunity of burning their blood fat, which consequently may tend to precipitate into the walls of their arteries.

Among fishermen and farmers' wives we have hardly seen any cases of coronary occlusion but these are the people who are least restful in this country. On the other hand we have seen a great number of cases among the white collar workers in the towns.

We have no exact data on these matters, but in our autopsy protocols we have an excellent material to work with as these conditions have been closely followed from 1930, when systematic autopsies have been made, now exceeding 4,300 in number.

A detailed inquiry into the living habits, smoking history, diet, etc., of patients with coronary occlusion might be worthwhile, and may be easier to carry out here than in some other countries because of our special conditions, especially

the monotony of the food, which consists of fewer ingredients than in most civilized countries. The influence of smoking should also be rather easy to make out, as so many people smoke little or nothing here.

Cholesterol analyses could also easily be made as they are regularly made in our hospital laboratories.

As heart infarction has become so very frequent here, we should be able to collect a sufficient number of cases in a few years with detailed information on their genetical and environmental conditions, which might furnish valuable information to solve this great and important problem.

If such a survey might be of interest to you we should be highly interested to contribute everything in our power toward a systematic inquiry into these matters in our country.

IRAN

BEHDASHT, *November 11, 1959.*

DEAR SENATOR HUMPHREY: It was a great pleasure to receive the fifth in the series of publications issued by your subcommittee, as a part of your international health study. I take this opportunity to congratulate you and your committee for your grand and excellent plans for the International Union Against Cancer.

Although our statistical information is not complete and represents only a fraction of our relatively large country, however, there is enough evidence to believe that at least in Teheran City cancer is one of the leading causes of deaths and that frequency of known cases is increasing. We have some observations which show that the incidence of cancer of the tongue and oesophagus is higher among our Turkemans who are used to chewing the tobacco leaves.

You will also be interested to know that in recent years cancer has been given enough recognition by our health authorities. The establishment of cancer research center in the frame of the University of Teheran, or the selection of "Cancer" as the topic for the Eighth Medical Congress which was held in Ramsar just a few weeks ago, are but few examples for the above statement. For your further information I am enclosing an English translation of my speech in the opening session of the said congress.

In closing I will appreciate it very much if you kindly will place us on your regular mailing list and keep us informed from your future publications and new developments.

Sincerely,

A. RADJI, M.D.,
Minister of Health.

THE INAUGURAL SPEECH OF HIS EXCELLENCY DR. RADJI, THE HONORABLE MINISTER OF MINISTRY OF HEALTH AT THE EIGHTH MEDICAL CONGRESS IN RAMSAR

Ladies, gentlemen and honorable colleagues, before starting my speech I deem it my duty to submit humbly to H.I.M. the Shah my sincere and cordial thanks in the name of all the physicians, medical experts, nurses and those individuals who are somehow the servants of the society and of our beloved motherland in the different aspects of the arts connected to this noble profession. To thank him for his special kindness and consideration bestowed on the medical services, medical society, medical education and nursing, and pray to the Almighty for his good health and prosperity. And I hope that with the kindness of our just King, who is a patron of learning, the medical society of Iran, in carrying out the intentions of H.I.M. the King, may succeed to render more services.

One of the evidences of H.I.M.'s favor toward the medical society is this very congress which brings together annually, according to H.I.M.'s desire, the professors and the medical profession of Iran, so that our dear colleagues could benefit by each other's opinions and by the result of each other's studies.

The topic under discussion this year, as approved by the permanent committee of the congress, is the cancer. I am also very pleased to welcome our non-Iranian guests who have accepted our invitation for participation in this congress and wish them happy days during their stay in our country.

To give a complete and comprehensive data on cancer is a very difficult, if not impossible, task today; for that which the physicians and the technical scientists deemed in the past an indisputable fact is not more than a hypothesis

today. If a book be written on cancer today and be sent to the printing house, sometimes it may be necessary to make changes in the great part of its contents before it is completely printed. The reason for this is the wide investigations and researches made today on cancer in all countries of the world.

This terrible disease has existed since the genesis of the human being. The Greek scientists such as Hippocrates in 470 B.C., and later Galen in 130 B.C., acquired some information on the diagnosis of this disease.

They believed the reason to be the nonequilibrium of the tumors. Avicenna and the other ancient medical savants of our country have also made studies on cancer and have mostly been followers of the Greek school. In the latter part of the 18th century, the French school of Bishah and Laenk were of the opinion that cancerous tissues existed. In the beginning of the 19th century the microscope was invented and a new horizon became manifest in the world of cancerology and acquaintance was acquired with pathology and histology of cancer. In the latter part of the 19th century the discoveries of Pasteur caused the origination of a theory whereby the cancerologists were led to believe that the source of cancer might be parasitic or microbic.

In the beginning of the present century Curie and Roentgen discovered the X-rays and the radium. In 1904 treatment of cancer with X-rays begins and, as usual, due to excessive use, side-effects of radiation burn of healthy cells appear, causing compulsorily establishment of radiobiologic rules.

During this period the different cancerous cells become well recognized and classified, and gradually the effect of the colloids, the cell culture, and the matters which produce cancer attract the attention of the experts and the physicians understand that cancer is increasing and that this disease should be considered by the physicians and the executive power from three standpoints:

(1) The disease itself.

(2) Its treatment.

(3) The social difficulties created for the families and the society due to this disease.

Based upon this thought cancer control centers were established and these centers prepared a specific, definite program. The program aimed—

(1) To gather all the patients in these centers and to utilize all the available curative means to the benefit of the patients.

(2) To continue scientific researches and investigations, hoping to discover more effective and reliable methods of treatment, so that it would be possible to educate and train those specialists who take steps toward that end. In these centers the people are advised through health education, that cancer can be treated provided it is diagnosed at an early stage and for this reason one should refer to a physician as soon as a glandular tumor and/or abnormal symptoms become manifest.

In the latter part of the Second World War; i.e., after the atomic energy was utilized, some new problems and difficulties came into existence. Apart from its destructive and fatal power this energy of atom has the property of producing cancer and curing cancer; and today as the honorable audience are aware, in the international scientific and political assemblies many discussions are made on the utilization of the atomic energy during peacetime—its utilization for the treatment of the sick and in agricultural and industrial matters. It is obvious that any improvement or progress which may help toward the well-being and prosperity of the humanity and improve the level of production and the economical situation, will, in the meantime, create new and sometimes important difficulties and problems.

The scientists and the specialists had not yet acquired the immunity which they aspired for in their own radiology services, that the danger of atmospheric pollution with radioactive substances engaged the thoughts. It means that the use of the atom in industry, agriculture, and medicine will cause more people to get into contact with rays; and the atomic tests on the land and in the air will also create new dangers for the humanity. As regards the nuclear tests in the air, a number of specialists are of the opinion that if it be exploded in a very high altitude, due to an enormous heat produced by this combustion, all the parts of the bomb will be evaporated and spread in the atmosphere in the shape of very tiny particles and fall down on a wide surface during a very long time. The falling down of these particles has no danger for the human beings but if the explosion be on the earth, the soil, stones, and the construction materials will be highly contaminated with radioactive matters and, as they spread on a smaller surface, this contamination will be dangerous for the living creatures.

There is a great difference between the danger of the tests made in the air and the tests made on the earth.

The constituent substances of an atomic bomb are strontium 90. This substance maintains radiation power up to 30 years and has beta rays. It is not known if the continuous absorption of some of these rays would not be effectless in the deformity of the human beings. Some others have stated that the sedimentation of this matter in the bones produces bone cancer. The atomic energy committee has refuted this opinion and has stated that whatever absorbed by the body from this matter in space tests is repelled to a great extent.

The danger of this matter is much for the human being, animals and for plants in the ground tests, and this danger will linger on for several weeks. Some believe that those radiations, both terrestrial and celestial, affect also the length of the life of the human beings.

The other substances in the bomb are carbon 14, iodine 131 and cesium 137, and their radiation power is as follows:

For carbon 14, on the average 5,600 years; for iodine 131, 11½ days; and for cesium 27 years.

But since the radiation amount is very little, its danger for the human beings is not worth mentioning. In Canada in the investigations made after space explosions they have come to this conclusion—that the amount of radiations absorbed by the people as a result of the space tests of United States, England, and Russia is one-fiftieth of the radiations which the man normally absorbs from the air, water, earth, and stars.

The indisputable fact is this—that those who deal with rays are more exposed to danger, such as, according to the available statistics, leukemia is unfortunately more common among the radiologists; and the makers of medical and industrial instruments should make more efforts in providing for the protection of the mankind.

Today's situation of cancer in the world

Cancer is increasing in the world and this has many reasons which are known to everybody. The communicable diseases which are on the decrease throughout the world constitute one of these reasons and it is because of this that the average duration of life in the world is on the increase. The necessity for industrialization of countries also has some effect in this matter.

We all know that this disease may be seen at every age. According to the most recent statistics issued in America, mortality from leukemia among children under 5 years is much higher than the mortality from infectious diseases. The economical value of cancer in America is estimated $1 billion every year, and the chances of developing this disease for men is 1 in 5 and for women 1 in 4. And for this reason since in that country, next to the cardiovascular, cancer is considered as the main cause of death, therefore this matter is being given much consideration.

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One of the positive steps taken by the order of H.I.M. and with the help of the university and the Red Lion and Sun Society, in which the Ministry of Health has had an insignificant share, is the establishment of the cancer center, called the Pahlavi Crown Institution, in the Pahlavi Hospital. This is a center for treatment and study and for training specialists. All curative and research facilities are available in this center. Our second center is in Shiraz. I have a strong hope that with the training of specialists in the near future it will be possible to set up, in all Ostan main cities, centers similar to the ones already established in Teheran; and there is no doubt, that with the grace of our great and beloved King, this project will gradually materialize in the near future.

Concluding my statements, once more, in the name of all those present in this congress, and all those who in the matter of medicine are servants of the humanity, I submit my most sincere thanks and greetings to H.I.M. and am grateful to the Pahlavi Foundation who by H.I.M.'s order have provided for our entertainment in this place; and also express my thanks for the troubles taken and efforts made by the honorable members of the permanent committee and technical committee of the congress.

I thank the honorable speakers who have accepted the trouble and used their time in studying and preparing useful materials for this congress and am certain that the medical community of the country, with the grace and under the auspices of H.I.M., and valuable guidances and assistances of H.E. the Prime Minister, will render considerable and efficacious services for the people and the humanity.

ISRAEL

THE WEIZMANN INSTITUTE OF SCIENCE,
Rehovoth, June 23, 1959.

DEAR MR. HUMPHREY: My colleague, Dr. E. Katchalski, who is Head of the Department of Biophysics at this institute, was kind enough to show me your letter, dated March 31, concerning the activities of your subcommittee for the expansion of financial subsidies for cancer research all over the world. He felt that you might be interested in any suggestions or opinions I might express on the subject, in view of the fact that I have been engaged in cancer research for over 30 years (at Leeds and Oxford in England, and here in Rehovoth since 1950), and that I am a member of the International Cancer Research Commission of the International Union Against Cancer, and also a scientific advisor to W.H.O. on cancer research policy by that body.

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Yours sincerely,

I. BERENBLUM, M.D.,
Head, Department of Experimental Biology;
Chairman, Israel Cancer Association.

COMMENTS ON THE NEED FOR EXPANSION IN CANCER RESEARCH

(By I. Berenblum, M.D.)

The following statement attempts to deal with two specific questions raised by Mr. HUBERT H. HUMPHREY, chairman of a special subcommittee of the U.S. Senate, namely 1) what the U.S. Government should do in order to help speed the conquest or cancer, and 2) how this problem may be viewed specifically with respect to Israel.

While modern cancer research may be said to date back from about the beginning of this century, and a considerable amount of new knowledge has been acquired, particularly during the period between World Wars I and II, there has been quite an intensive and growing support for cancer research since the end of the World War II. This has been particularly evident in the United States, somewhat less so in the larger countries of Western Europe, but only to a limited extent in other countries (even those which are scientifically quite highly developed, such as Israel), largely because of limitations of funds. There can be little doubt that the suggestion that surplus U.S. funds might be spent, in considerably larger sums, outside the United States for sponsoring worth-while cancer research would serve as a powerful incentive, and usefully exploit the scattered scientific manpower of the world in the fight against cancer. Among experts in the field, especially those serving on advisory panels in the United States, and associated with international bodies such as the International Union Against Cancer, it is fairly well-known which are the research centers in the world that are carrying out useful and imaginative research on cancer, which, with adequate financial backing, would prove far more effective than heretofore.

The nature of the research being carried out in different centers naturally varies, not only in the kind of problems involved, but also in the broad approaches, such as from the clinical, statistical, biological, chemical, or virological angle. Without wishing to evaluate these different approaches—all of which undoubtedly deserve encouragement and support, I should like to concentrate on those aspects of the cancer problem which are generally designated under the name of "experimental cancer research," not only because this is the area which I am most familiar, but also because it is the approach which is most likely to provide in the end the sought for solutions for the eradication of the disease.

Israel is in a rather unique position in this respect. It is one of the smallest countries, in a geographical area which is not yet scientifically far advanced, and with many economic and developmental problems of its own. Yet, scientifically, it happens to be rather highly developed, including among its leaders of scientific research not only a body of highly trained and imaginative scientists developed within the country, but also a considerable number of experts whose training has been in the United States, England, and other Western centers. It has a number of institutions of higher learning, which rank high in the world of science and have a young but highly developed scientific tradition, based on the best features of Western civilization. It has, for instance, an institution

like the Weizmann Institute of Science, with some 200 full-time research scientists and a total complement of over 500 spread over a wide range of sciences, with an ouput of scientific achievements which compare favorably with some of the best of similar institutions in other parts of the world. Included among the various departments of the Weizmann Institute is the Department of Experimental Biology, which is engaged in experimental research, and much of this is directed towards the cancer problem.

This includes (1) an intensive program of research on the earlier stages in the evolution of cancer; (2) the study of immunity and genetics in cancer; (3) the role of viruses in the disease; and (4) the biological mechanism of radiation, with special reference to cancer. Though the scientific output in these four branches over the past eight year has been considerable, there can be no doubt that each one of them is seriously hampered by inadequate funds for personnel, as well as running expenses. The first of the projects mentioned above reached its peak during the period 1941–47 with a formulation of the "two-stage mechanism" of tumor induction; it has since acquired international recognition and stimulated a considerable amount of research in many centers of the world. In the light of this, the International Union Against Cancer has recently decided to hold an International Symposium on "Functional Components of Carcinogenesis" here in September and some 25 leading scientists in the field from all over the world will participate. The work itself has recently taken a new bent, necessitating the building up of a large biochemical unit to supplement the previous biological approach to the problem. For this to be implemented, considerable sums of money, at present beyond our means, would be required.

The various fields of experimental cancer research at present carried out at the Weizmann Institute, and similar activities at the Hebrew University in Jerusalem in neighboring fields of research, represent the kind of research units which, with adequate financial backing, might well play an important role in the future of world cancer research. It is without any parochialism on my part that I would, myself, sponsor such support in any overall planning for the future expansion of world cancer research.

ITALY

FONDAZIONE SENATORE PASCALE,
ISTITUTO PER LO STUDIO E LA CURA DEI TUMORI,
Napoli, May 27, 1959.

DEAR MR. HUMPHREY: Thank you for your letter of March 16 and your confidence. It is difficult to answer your questions in a few words. We will try to summarize our viewpoint along its general lines, if you find that our ideas can be of some help and deserve a development, we will be honored if you write us again so that we can get into details.

Your question: "What should the U.S. Government do in order to strengthen research which will help conquer the cancer problem throughout the world?"

A preliminary assumption—in our opinion—is the following: It is necessary that all people working with cancer patients or with precancerous patients be in the position of rationalizing the fruit of their observations and work.

Hence the consideration follows that cancer research problems cannot be disconnected from the study of cancer patients: It is obvious that research problems in cancer may follow diverse avenues, however it should be emphasized that the main research problems should derive from the study of patients. Research problems, therefore, are strictly connected to routine problems: Today's research represents tomorrow's routine.

From the above considerations two problems derive: Technical work and organization both in routine and research work.

To make things easier, we shall consider the two main lines and their sublines to which the technical work and the organization must tune themselves:

(A) Routine: (1) prevention; (2) diagnosis; (3) therapy; (4) teaching and training of doctors and personnel.

(B) Research in: (1) cancer patients; (2) normal cell growth in vegetals and animals; (3) spontaneous and experimental tumors of animals (veterinary and biological branches); (4) tumors of plants (botanic branch); (5) vegetal and animal embryology and development; (6) hormones and metabolites; (7) viruses; (8) cell, tissue, and tumor immunology; (9) biochemistry; (10) morbid anatomy, histology and cytology, histochemistry and cytochemistry; (11) radiobiology; (12) pharmacology and chemotherapy.

(A) routine and (B) research lines are the major avenues of organization and of technical work and sublines of both (A) and (B) are their subdirections of greater practical importance. Other directions can derive from them or be related to them.

The first step the U.S. Government could make in order to help to conquer the cancer problem throughout the world consists in trying to make approaches directly—through embassies or consulates—or indirectly—through international organizations—to public health ministries or committees or foreign countries in order to standardize at least the line (A); i.e., routine in all countries.

This standardization should concern:

(1) Outpatient clinics for diagnosis and prevention

These centers should control aliquots of the populations, both in cities and country: their aim would be to check all those that voluntarily go to the center and those whom the doctors or the personnel in charge visit at their homes. In men starting 40 years and in women 35 years the control should be compulsory by law once in a year. It could be performed by the doctors of the center, in connection either with the private family doctors or with the doctors of factories, industries, work environment in general.

The checkup carried in a standard way will consider the examination of the sites more commonly the prey of cancer and the study of blood values, X-ray, and so on.

The clinical records of these outpeople should be compiled in a standard way for all the world and written in two languages, the language of the country and the English language.

The records are differently prepared according to the age (1–10 years, 11–20 years, 21–40 years, 41–60 years, from 61 years up) and sex (male-female).

They are conceived so that, in regard to the age and sex, it is possible to report on the records all the possible data, both physiologic and pathologic, which have their influence in preparing the history of the subject.

The records should be standardized by an international committee formed by members of all the adherent nations. As separate entries, they should provide for the detailed checking of the diseases, diseased states, physiologic or paraphysiologic state, sexual life, and so on—all things listed in the record in such a way that they can be easily checked. The record should contain also data on meteorology, humidity, air radiations, climate and so on of the site in which the subject lives and of the different sites in which he has lived. Data of physical examination, results of laboratory investigations, hematological, cytological, X-ray checkup, will be reported. Of each record five copies must be filled, the first for the center, the second for the patient, the third for the National Institute of Statistics, the fourth for the international organization, the fifth accompanies the patient to be taken by the hospital if the subject must be hospitalized.

In the bigger centers, teaching and training are performed for doctors and personnel.

(2) Therapy

Once the diagnosis is set, the patient is sent to the hospital. The hospital oncologic unit may be located in a general hospital or may represent a specialized hospital. Whichsoever the category, it is important to emphasize that a hospital oncologic unit should be set for aliquots of the population. Each oncologic unit would control n_____ of inhabitants and should contain n_____ patients.

The figures vary according to the countries and the number of hospitals in each country. Each oncologic unit has medical and surgical wards, general and specialized, and all the diagnostic and therapeutic aids connected with medical, surgical, and radiologic care of patients. Some oncologic units, according to the importance of the hospital and to its location (state, region, province, municipality, etc.) will develop the teaching and training of the personnel and of the young doctors so that to these it will be easier to put or to suspect the diagnosis of cancer or precancerous state when they are in professional life, and so on.

The hospital oncologic records should be standardized for the age and sex, like those used in the diagnosis and prevention centers, obviously with the necessary modifications and additions, and copies of them should be sent to the national and international institutions.

In prevention and diagnositic centers and hospital oncologic units of greater importance the research work should be allowed, encouraged, and developed.

The research work however, in centers and units, will concern (1) the patients

and all that is feasible with patients from the etiologic, pathogenetic, statistical, therapeutic point of view, (2) other projects of experimental pathology which can be easily followed and performed.

The U.S. Government could help other countries by trying to realize the schema above cited, and setting a central cancer office in WHO or elsewhere which has the task of gathering all the data coming from the centers and oncologic units of other countries. This should be the first indispensable step; through centers and oncologic units, standardized in their records and policy, many data would be available.

The second step the U.S. Government could move concerns the research per se. It is our conviction that people—within certain limits—should be free for thinking and suggesting new ideas of research work. However, research per se in cancer problems should be accomplished by followers of the biological disciplines together with doctors who worked at least 5 years, after the degree, with cancer patients.

I would suggest, therefore, that the settlement and development of research work per se should be limited to the institute, institutional organizations, foundations, nonprofit organizations in which the lines of research work can be deepened.

These lines are theoretical and applicatives and derive from: (*a*) the study and implications bound to cancer patients and the precancerous states, (*b*) general biology, (*c*) zoology, (*d*) botanics, (*e*) genetics, (*f*) bacteriology, (*g*) virology, (*h*) endocrinology, (*i*) biochemistry, (*l*) biophysics, and so on.

It should be emphasized, however:

(1) That it is not necessary that the same kinds of research institutes are spread throughout all the world. It is enough that for a given world area research institutes in particular fields are settled and that researchers from all the world, who want to work in that field, have the possibility of working there.

(2) That the research institutes throughout the world or the cancer research sections located in research institutes must be connected in chain the one to the other, must exchange their results in brief interchange reports, and hold biennial conventions, in which the results of efforts of researchers in given fields are exposed to other efforts.

Programs and plans of work prepared in the single institutes and settled in a final set will be elaborated and discussed among the directors of the institutes of the cancer research sections in annual sessions. In these sessions all the directors will provide the coordination of the data coming from and/or pointing to the different fields of work in which, however, the aim—study of cancer—is unique.

(3) Triennial sessions will gather together people of the research institutes and people of the prevention and diagnosis centers and hospital oncologic units.

The help the U.S. Government can supply concerns the definition and organization of the research institutes which will be approved throughout the world. For this aim some institutes already existing can be exploited, and others must be established.

Moreover, another kind of help can be given by supporting, independently of the organized plans, some "screening" or "approach" projects which, starting from ideas not consequently bound to the official knowledge or staff, need an initial support in order to screen the feasibility and possible value of the plans.

This, Mr. Humphrey, is our point of view on the problem and in thanking you again for the confidence, we confirm to you that we will be happy to write again in case you need details.

With our kindest regards.

Yours sincerely,

Prof. P. VERGA,
Direttore della Fondazione Pascale, Istituto per lo Studio e la Cura dei Tumori, Napoli.

Prof. A. CAJANO,
Primario della Divisione Medica della Fondazione Pascale, Istituto per lo Studio e la Cura dei Tumori, Napoli.

ISTITUTO NAZIONALE PER LO STUDIO E LA CURA DEI TUMORI,
Milano, May 12, 1959.

DEAR SENATOR HUMPHREY: I have been out of Milan for several weeks and so can only now reply to your interesting letter on international cancer research.

In trying to answer your question as to what the United States can do to strengthen research in the international struggle against cancer, I would first of all say that after many years of experience of cancerology in Italy I am exceedingly skeptical as regards the speedy conquest of an effective anticancer therapy. In my view this is not due to scantiness of research into cancer to date, as research in this field has been conducted on a large scale and has been conducted well. The problem as I see it is that we have not a profound enough knowledge of the normal biology of living tissues; we know too little, for example about the regulator processes of normal growth to explain satisfactorily the regulator processes of tumoral growth. In the field of antineoplastic chemotherapy it is as well to remember that a large number of experiments are little more than shots in the dark, an enormous number of different chemical substances are injected into tumor-bearing mice and one waits to see what happens. Attempts at tackling the problem with rational means (e.g., with antimetabolites) have yielded very modest results. Hormone therapy for certain tumors, though among the most interesting for their encouraging results, often lead to paradoxical and incomprehensible observations. To give you an example, I would remind you that cancer of the male breast often recedes (temporarily) after estrogenic hormone therapy, which is exactly the reverse of what one would expect. This is merely a reflection of our inadequate knowledge of normal endocrinology. I mention this merely to underline my point, that is, that the crux of the problem of cancer research is one of basic biological research. In my view, the fields which most demand investigation and aid are: (*a*) genetics, (*b*) immunology, and (*c*) endocrinology.

You mention research into the geographical pathology of tumors. While these studies are very fruitful in terms of etiology and the prevention of tumors, I doubt whether they are of great use in the search for a medical therapy for tumors.

U.S. aid for cancer research overseas is obviously of enormous importance, but there is great danger of dispersion of funds. Indiscriminate distribution of funds to hundreds of researchers scattered throughout the world and support of free-lance efforts is likely, I feel, to lead to disappointing results. Much more effective would be the allocation of funds to a small number of large institutions specializing in cancer research and therapy, say, 15 to 30 of the world's great cancer hospitals. Meetings between the staff of such a limited number of superspecializing centers would be easy and frequent, overlapping could be reduced to a minimum, and such ventures as pilot chemotherapy centers could be conducted according to a program coordinated by an international authority.

The value of international congresses is, in my judgment, very limited. The time has now come for advanced courses on specific cancerological subjects and I feel that the creation of international schools for highly specialized training in certain fields of cancerology would be of the utmost value. This would afford a standardized basis for young men throughout the world and make possible fruitful research into given fields.

But the United States could do much outside the field of pure research. There is a great deal of work to be done in the field of present-day conventional treatment of cancer. It would be very useful, for example, if a body could be set up for the purpose of making a standardized comparative assessment of the results of the various therapies. This is of fundamental importance in the treatment of malignant tumors and a special committee of UICC is working on the problem.

As to the position in Italy, unfortunately, it is a critical one. * * * neither doctors nor patients have yet become cancerology conscious. At present there are three cancer institutes in Italy (in Milan, Rome, and Naples). The one in Milan is the largest. It has about 100 full-time doctors, is very well equipped for radiological and surgical treatment and is well equipped for experimental research. About 4,000 patients are treated there every year. A large chemotherapy and endocrinology department makes it possible to try out all the most advanced methods of medical treatment of cancer.

There are two national organizations in Italy concerned with the social problems of cancer and the scientific development of cancerology. There is the Lega Italiana per la lotta contro i tumori with an annual income of 100 million to 300 million lire ($150,000 to $500,000), which is concerned mainly with social

activity, assistance and propaganda (early diagnosis), and the recently instituted Società Italiana di Cancerologia, whose purposes are scientific. Its object is to sponsor a national congress on cancerology every 3 years and hold annual meetings and symposia on various subjects. In Italy there are only four scholarships for cancerology a year (2 of $1,600 tenable abroad and 2 of $800 tenable in Italy). There is no university teaching on cancerology. Should you be interested in receiving more detailed information on the position in Italy, I will gladly supply it as I am on the board of the Lega Italiana per la lotta contro i tumori and a member of the Società Italiana di Cancerologia.

To sum up my views on what the United States could do in this field on an international scale, I would make the following suggestions:

(1) That dispersion of funds should be avoided and that aid should be granted to a small number of large cancer institutions (15 to 30 for the world);

(2) The sponsoring of research in the field of normal biology, especially in immunology, genetics, and endocrinology;

(3) The creation of pilot chemotherapy centers under international direction (a suitable committee) in some of the above-mentioned cancer institutions;

(4) The creation of highly specialized international cancerology schools;

(5) The promotion of international centers for the standardized assessment of different therapies.

The situation in Italy is far from good, but recently there have been signs of revival which deserve encouragement.

Thanking you for the opportunity to give you my views, I am,

Yours very truly,

UMBERTO VERONESI,
Professor of Surgery.

P.S.—Under separate cover I have sent you a copy of the proceedings of the First National Congress on Cancerology, which was held in Milan last year and of which I was secretary.

JAPAN

TOHOKU UNIVERSITY SCHOOL OF MEDICINE,
Kitayobancho, Sendai, Japan, April 8, 1959.

DEAR MR. HUMPHREY: Your letter dated March 18, 1959, has been read with thanks. I heartily pay homage to the grand project of the U.S. Government for assisting foreign researches for the conquest of malignant tumors and expect that the project will be crowned with splendid success.

It is a great honor for me to have been chosen as one of the specialists to answer your question. After much deliberation, I have decided upon the following as my humble suggestions.

1. Foundation of institute for geographical pathology

A systematic study of the geographical distribution of cancer and other diseases of unclassified pathogeny (cardiac diseases, hypertension, diabetes, etc.) may be expected to give clues to their causes and lead to establishment of successful prophylactic measures. I hope the U.S. Government will help founding centers for such a study, in some quarters in the world, which will cooperate in carrying out the study. The features of cancer and other such diseases in Japan are dissimilar in many points from those in Western countries. I particularly hope that one of the centers will be established in Japan.

2. Epidemiological and geographical survey of cancer and correlated diseases on a worldwide scale

Some such international studies on cancer and other chronic diseases extending over some geographical regions have been carried out and joint researches by specialists in many countries throughout the world have not been lacking either, but the results are not yet comprehensive enough. I believe such a survey should be undertaken under a closer cooperative project and over a wider area. Such an international project would require a considerable sum to finance it, and I hope the U.S. Government may consider financial assistance for the project.

The two proposals above are closely interrelated, for if centers for geographical pathology are duly installed at strategic points, these will be of great service in carrying out the survey.

With my repeated respects to the U.S. Government for the project of assisting the mankind in fighting against one of the greatest calamities, I remain

Sincerely yours,

MITSUO SEGI, M.D.,
Department of Public Health.

HOKKAIDO UNIVERSITY SCHOOL OF MEDICINE,
Sapporo, Hokkaido, Japan, May 7, 1959.

DEAR MR. HUMPHREY: I greatly appreciate being consulted about the problem of cancer. Solving of this problem is indeed a most urgent matter, but in practice there are many difficulties involved.

As you know, in recent years many countries have been observing the Geophysical Year and this has produced many significant results.

I would suggest that all nations collaborate to observe, what we may call a Year of Geographical Pathology of Cancer and to organize a world congress.

It is desirable for all countries to participate, with the aid of pathological anatomy, to determine the incidence of the disease and the mortality rate in each country. I am convinced that comparative studies showing the respective relationship of the disease to the intrinsic and environmental factors in each country would be greatly beneficial to the anticancer campaign.

Since at present the classification, nomenclature and other features relating to cancer are not uniform throughout the world, it may take considerable time in preparation to fix the methods and secure the personnel for the research. However, if clinicians, pathologists, and statisticians all over the world would collaborate in using standardized methods the project will not be impossible. If the Government of the United States of America together with WHO, COMS, UICC, and other organizations could take up this plan with enthusiasm, I am sure it would bring about the required results.

Last year, at the UICC Committee of Geographical Pathology of Cancer, we planned to undertake this project, but owing to inadequate preparation and shortage of funds we were unable to put it into execution.

I feel strongly that if the U.S. Government would take up this scheme, and put it into practice, the enthusiastic collaboration of all countries will be forthcoming.

Sincerely yours,

KATSUO TAKEDA,
Dean of Hokkaido University School of Medicine.

UNIVERSITY OF TOKYO,
Hongo, Tokyo, June 10, 1959.

DEAR MR. HUMPHREY: Please accept my most cordial thanks for your letters of March 18 and 31, 1959. The second letter I received on May 22. I understand I was requested to give my personal views on the cancer problem in Japan as well as on new-type projects of collaboration which I feel might be productive toward solving the universal problem of malignant tumors. I felt highly honored by your request. But I found the question so serious and difficult that I found myself for a while at a loss for a prompt answer.

I was very much pleased to learn that your Government is now contributing $3.6 million of research aid overseas. Prior to describing my views as regards how to combat with cancer, especially in Japan, it looks useful to summarize in advance what I shall mean after all.

In 1954, at the International Cancer Congress in Sao Paulo I had an opportunity to express my own views on the significance of the chemotherapy in combating with the cancer. Since then I keep the same views without any change in principle, so that I tried to emphasize again at the London International Cancer Congress, last year, the same thing based on further accumulated data.

As to the cancer problem in Japan, it is generally accepted that the stomach cancer represents the highest priority. On the other hand the low incidence of mammary cancer makes the other distinguishing trait in Japan. But it seems to me that these geographic features, however distinctive they may look, can hardly provide basis for seeking for a peculiar way of solving the cancer problem in Japan, which is different from those of other countries.

On the other hand, widely extended geographic pathological studies of cancer demonstrated sometimes remarkable examples of regional differences as regards incidence and types of cancers. They also demonstrated that extremely inadequate nutrition or unusual habitus were actually involved in the cause of those cancers. Even though these examples so far known may belong to exceptional cases, collection of further informations of geographic pathology is essential to getting better understanding of the problem.

However, as regards so-called cancer hazards of general civil life, it is most difficult to demonstrate their actual significance relating to cancer development. Furthermore, attempts to eliminate these "undesirable" hazards from our environment, just because they are undesirable, might, I am afraid, encounter serious social problems which might sometimes have priority over cancer problems. At the same time, we cannot ignore the internal causes of cancer, which are more difficult to approach than external ones. It seems, therefore, safe to say that the prevention of cancer based on the thorough knowledge of its cause is, in the present state of things, beyond the reach of the capacity of cancer research.

At the present situation, it seems to me that there is no choice left before us than to combat with "developed" cancers. And it comes, after all, to the investigation of chemotherapy. However, in case the cancer chemotherapy is pursued separately, it will be hard to recognize its real value.

It is a general acceptance that the recurrence of cancer after the surgical removal of primary tumor occurs usually in 2 to 3 years at the rate of 70 to 80 percent of all cases. The regrowth can occur in distant places, too, as delayed metastases, even without being accompanied by any sign of regrowth at the site of the initial tumor removed. This relation has, in principle, little to do with the quality of surgeons and hospitals concerned, since the problem of regrowth is on the level of cell, whereas the surgical technic occupies the level of gross anatomy.

Cancer cells grow not only localized at the primary site, but disseminate throughout the body. The condition is compared with the sepsis caused by absorption of bacteria from an infected region into the blood. Cancer cells thus escaped from the initial tumor into the blood and scattered throughout the body can lurk in every part of the tissues, so that some of them cause recurrence of cancer at any site in 2 to 3 years after the removal of initial tumors. There is as yet no means to know where in the body the scattered cancer cells are hidden. They are beyond the reach of surgical, that is gross anatomical, approach. And, in order to deal with these hidden individual cells, it may be hard to imagine other means than chemical approach. If I may be allowed to use a metaphor of the strategy of war, the fight against the disseminated cells may be compared with a cleanup operation of guerrillas, which is often much more troublesome than the reduction of a fortress. The chemotherapy of cancer finds its own part just here, that is in the cleanup operation of the disseminated cells after the surgical removal of initial tumors.

When the chemotherapy will once succeeed in preventing the regrowth, the same procedure will be applicable to the earliest cancer, which is common with the postoperative state in that in both cases a small amount of tumor cells lurk somewhere in the body. Though the earliest cancer is at present most hardly perceptible, doubtful cases, among which actual early cases are included, could be treated in that way, and the result anticipated is the statistical lowering of the rate of cancer development. Under the circumstances that it is hard to approach a prevention of cancer based on the knowledge of its causes, this will be regarded as a useful means of cancer "prevention."

One more thing I should like to add is that the real improvement of studies on the cancer chemotherapy will be expected only when the collaboration of laboratory and clinical workers is realized. Unfortunately, there exists in Japan, at present, an unbalance between laboratory and clinical chemotherapy studies. I confess that I must agree with comments that chemical compounds which were claimed to be useful by Japanese laboratory workers were often lacking of careful clinical examinations. I find the reason in the fact that cancer workers in Japan are not sufficiently provided with specialized cancer hospitals of high level.

If I may understand that the overseas program of research aid of your Government includes Japan, I should like to draw your attention to the fact that specialized cancer hospitals of high quality, which are lacking in Japan owing to financial difficulties, are essential to improve the cancer chemotherapy which

is being much studied in Japan and the significance of which I tried to emphasize.

I hope that I could meet, at least to some extent, with your request.

With kindest regards, I am,

Sincerely,

TOMIZO YOSHIDA,
Professor of Pathology.

PAKISTAN

DEPARTMENT OF SURGERY, DOW MEDICAL COLLEGE,
CANCER INSTITUTE OF PAKISTAN,
JINNAH CENTRAL HOSPITAL,
Karachi, June 26, 1959.

DEAR DR. HUMPHREY: I thank you very much for the honor done to me through your letter of March 18, 1959.

I placed your letter before Lt. Gen. W. A. Burki, Minister of Health and Social Welfare, Government of Pakistan, and have also shown it to the Director General of Health, Government of Pakistan. You may be knowing that General Burki was previously the Director General of Medical Services of Pakistan Army, Navy, and Air Force. We are very fortunate in having him now as our Minister of Health. I have been authorized by them to reply to your very kind letter.

In my opinion, the U.S. Government may very kindly consider the question of spreading out their cancer research program into other countries which are willing to collaborate with such a scheme.

In some countries like Pakistan, it may mean establishing and equipping of an advanced cancer research laboratory and sending out a team of experts in cancer research, until the local talent is sufficiently trained to take over. In other collaborating countries, where fairly good cancer research institutes already exist, some new type projects might require subsidizing. It would also be necessary to develop the applied or clinical department of cancer research because the staff in charge of the applied and basic research should work in cooperation and collaboration and have the benefit of exchange and interchange of new information on cancer problems to make it more purposeful. It is very important to have a purposeful program, wherein there is a great liaison between applied and basic research as this is the keystone of a properly organized cancer research scheme. No doubt money is important, but the mode and location of its expenditure is not only equally but more important.

Thus, in my opinion there should be a central coordinating body in the United States to guide the new type projects to guard against wastage on duplications. It would be very good if Dr. John L. Heller or any one of his associates in the U.S. National Cancer Institute or Dr. Rhoads from the Sloan-Kettering Institute and New York Memorial Center is sent over to the collaborating countries, to make an on-the-spot survey of the local conditions. But if this be not possible, then the cancer specialists from the collaborating countries may be invited to the United States for a preliminary conference under the chairmanship of Dr. Heller. This would give a chance to the cancer specialists of an initial group discussion and to present the case of their country.

In my experience cancer is just as prevalent in our country as it is in the West.

No doubt geographic pathology and the local habits of the people may guide us in better understanding of the problem and give a clue to the success. I am very much interested in some of the local new type projects, e.g.:

(*a*) Whether anemias, vitamin deficiencies, inferior food and poor and unhygienic living conditions have any relation with the occurrence of cancer.

Whether devitalized tissues and mucous membranes are more susceptible to a carcinogen than the healthy tissues.

(*b*) Cancer of the genitalia of males and females of circumcised population as compared with the uncircumcised. Incidence of cancer of the cervix amongst women who have been delivered by untrained midwives and where cervical tears have not been repaired.

(*c*) Beetle (Pan) cancer of the cheek: At present cancer of the mouth is very common amongst our beetle-chewing population. What is the exact carci-

nogen factor has not yet been isolated. Beetle is chewed in different forms by different communities. Generally it consists of beetle leaf, beetle nut, catechu, slaked lime with or without tobacco. My esteemed friend, Dr. Khanolker, pathologist and Director of Cancer Research, Institute of India, Tata Memorial Hospital, Bombay, had done some original and interesting investigations and found that pure tobacco chewing does not produce cancer at site. Chewing of tobacco is a very common habit amongst the Pathans of northwest Pakistan. They do not chew beetle. I am sure this tobacco-chewing habit must be very common among the Pathans of Afghanistan also, but unfortunately we have no means of collecting this information or data.

(*d*) *Smoking and cancer of the lung:* When I had the honor of visiting my distinguished friends Prof. Evrat Graham and Dr. E. V. Cowdry at St. Louis in 1954, I was deeply interested in their research and very much wanted to continue this work on return with our local smoking habits. A large population of our poorer class used to smoke what we call Bidi. In this Bidi uncured pounded tobacco is wrapped in the dried leaf of a special plant. This leaf is not a tobacco leaf as in cigars. This leaf plant only grows in certain parts of India and because of foreign exchange problems, etc., it is not possible to import this leaf from India. Experiments are going on to grow this special plant in Pakistan, but in the meantime our local cigarette manufacturing companies, have started making cheap quality, English type, paper wrapped cigarettes and the poorer population have taken to smoking these cigarettes. These cheap cigarettes are very irritating and my apprehensions are that in time to come, cancer of the lung might increase in Pakistan, because of this.

The hubble-bubble (Huqqa) smoking habit is also seen dying out. My observation during my tour of Turkey and Iran was that it was dying out there too and people have started smoking cigarettes instead.

(*e*) *Air pollution and cancer of the lung:* This project is also very important for Karachi. There is a tremendous increase of the different types of motor vehicles on the congested roads. Most of the buses, lorries, street cars, and motorcycle rickshaws are running on diesel oil and being old, give out black, sooty, exhaust smoke, which is very irritating and suffocating. This soot must be a carcinogen and there is a genuine risk of increase in cancer of the lung in some years.

I take this opportunity of conveying to you, my deep thanks and appreciations for the very kind interest taken in me, during my cancer research training tour of the United States, America, from November 1953 to March 1954, under the ICA leaders program, by Dr. John L. Heller, Director of National Cancer Institute, Dr. C. P. Rhodes, Director, Sloan-Kettering Institute, Dr. Shearns, Dr. Evrat Graham, Dr. E. V. Cowdry and many other esteemed experts.

Assuring you of my full cooperation, in any assignment you may consider me fit for and again thanking you for the honor done to me,

I remain,

Yours devotedly sincere,

AZIZ K. M. KHAN, I.M.S., F.R.C.S., F.A.C.S., F.I.C.S., D.M.R.E., D.L.O.
Lieutenant Colonel.

PERU

INSTITUTO NACIONAL DE ENFERMEDADES NEOPLASICAS,
Lima, July 6, 1959.

DEAR MR. HUMPHREY: Thank you very much for your letter of March 31, 1959, which was received in my office on May 28. It is very stimulating the interest that the United States is taking in the international health problems which concerns to all the countries.

I know that the cancer problem presents so many aspects that it is very difficult to know which is the right one to approach. However, it is my feeling that perhaps a light could be obtained with the following suggestions which I submit to your consideration:

"There is no doubt that the United States is making the utmost effort in the fight to conquer cancer and the economica and human effort deserve the gratitude of the whole world. Nevertheless, the conquest of cancer implies a further knowledge of cancer itself in the human race and an understanding of the problems concerning the different races which may lead to the knowledge of its cause and therefore its prevention.

"We all agree that it is not necessary to know the universal cause of cancer, which we might never learn, however, to prevent certain types of cancer it is not necessary to know the cause if we know the conditions and circumstances which produces it.

"Can we ask ourselves why is it that in Japan cancer of the cervix and cancer of the stomach is very frequent, while cancer of the breast is unusual? On the other hand in the United States and European countries cancer of the breast is the first cause of death in women. Why is it that in Peru cancer of the lung represents only a very small percentage as a cause of death in men, while in women cancer of the cervix is much more frequent than cancer of the breast?

"These facts only serve to demonstrate the importance of a thorough study of the cancer problem in the human being and the different races with the purpose of obtaining information which could serve as factors for the etiolyogy and prevention of certain types of cancer.

"I feel that the United States should place more emphasis in these studies by sending investigators to verify or collaborate in the development of this source of information.

"Another matter would be to improve the relationship among investigators from the different countries in order to exchange ideas and problems of mutual interest."

I hope that this information will be of some help to your project.

Sincerely yours,

EDUARDO CACERES, M.D., F.A.C.S.,
Director.

PORTUGAL

LISBON, *June 3, 1959.*

DEAR MR. HUMPHREY: I thank you very much for your kind letter of March 16, 1959, which, as a matter of fact, I received only on Sunday, May 11, and I feel greatly honored in having been asked for counsel by the subcommittee over which you preside.

There is really very much to do in the cancer campaign, especially in those countries that cannot afford the expense of a large and complete study of the cancer problems.

In continental Portugal little could be done until now for the knowledge of cancer causation in relation with the different geological conditions of the land and of the life and nutrition levels of the population. I would like to add that the study would be very fruitful in this country since Portugal's soil is rich in minerals, some of them radioactive, and the way of the life of the people living along our extended coast differs substantially from that of the inhabitants of our inland districts and from people living in the mountain regions, the latter having preserved a habitat sui generis.

In the Portugal Overseas Provinces we have, in Mozambique—Portuguese East Africa—the problem of the liver cancer among the natives which, while being already attended to, would certainly need wider investigation with the consequent grant of funds.

In Angola—Portuguese West Africa—there would be among other things the need of investigating the influence of the bituminous products used by a part of the natives for lighting and lately for pavement roads.

In order to render it efficient it becomes necessary to increase—on continent as much as in our overseas provinces—the assistance for the earlier diagnosis and prophylaxis in the industries that are now being created.

These problems are, however, well known to the American investigators and have been attended to by the relative governments. As a matter of fact the latter have always granted help, here and there, to conquer this disease which unfortunately is still causing irreplaceable losses.

Sincerely,

DR. MARIA THEREZA FURTADO DIAS,
Instituto Português de Oncologia,
Palhava, Lisboa, Portugal.

SOUTH AFRICA

UNIVERSITY OF THE WITWATERSRAND,
Johannesburg, July 8, 1959.

DEAR SENATOR HUMPHREY: I must express my regret for the delay in sending you the enclosed report, "Africa South of the Sahara and the Cancer Problem," which took time to prepare along the lines which I considered most useful.

By and large, individuals engaged in research are absorbed in their own particular fields of inquiry and will tend to view requests for information in terms of their special needs. I have purposely avoided this approach, in view of my position as chairman of the African Committee for Geographic Pathology of the International Union Against Cancer, and have deemed it more desirable to provide an overall picture of cancer research potentialities and needs in the African Continent as a whole. I have also, however, included a fairly detailed section on the Union of South Africa, both because you asked me to give you some information about my own country, and because South Africa is more developed technically at present than other countries in Africa south of the Sahara.

As I have mentioned in the text of my report, there was not sufficient time at my disposal to obtain opinions and information from the other members of the African committee. The report is, therefore, an expression of my personal experience and views.

In my numerous visits to various territories, I have repeatedly had the pleasant experience of learning how many medical men there are in Africa who have shown great enthusiasm in undertaking and coordinating programs of research into cancer in response to a little financial help and encouragement. I am now convinced that there are many more such individuals, who, if sought out, would no doubt also become interested in an overall attack upon the cancer problem. To my mind, therefore, it is essential to devise a mechanism to seek out these people in a systematic fashion through personal contact as well as through governmental agency. Furthermore, in Africa, where trained personnel form a very small minority, these people should be given every encouragement to make their contribution to science, and, in so doing, to feel that they are the vanguard in the development of an indigenous scientific tradition.

I hope that this report will prove of value to your subcommittee and that it will suggest some answers to the questions you posed in your letter of the 18th of March.

Yours sincerely,

JOSEPH GILLMAN.

FAKULTEIT GENEESKUNDE,
UNIVERSITEIT VAN PRETORIA,
Pretoria, April 8, 1959.

MY DEAR SENATOR: May I in the first instance express appreciation for the fact that you are also approaching foreign schools for advice concerning the problems mentioned in your letter of March 13.

I may state that in my country we also consider this problem as of universal interest. We also consider that no barriers should interfere with humanitarian efforts to ease pain and suffering, disability, and premature deaths. On this very interest is based an approach to medical care in our country where all the facilities are made available to all the classes of people under our care.

It would appear that a country which has the financial strength to cross its own borders in an attempt to combat disease in its universal sense should particularly devote attention to geographic medicine and comparative pathology. Medicine needs more information about response to disease in terms of genetic, climatic, dietetic, and other groups. One man's meat may be another man's poison.

I would therefore suggest that your Government could assist institutions or study groups in other countries where comparative studies can be undertaken from which leads may be obtained to analyse the difference which undoubtedly exists in the disease picture in the metabolic and allied chronic diseases such as cardiovascular, joint, and cancer ailments. We for example have the opportunity in our country of having white and Bantu groups side by side exhibiting marked differences in the incidents of the various diseases. An explanation of these differences most likely would give an important lead to their prevention. Much of the medical research in South Africa today is directed toward this end in view.

I am restricting my remarks to the above mentioned although your letter could evoke comment on many and varied aspects. During my recent tour of Africa, Europe, and your country I felt that the above-mentioned field is one of the most important to which to direct our attention. I have set forth my views and the gathered information in a report to the World Health Organization.

Yours sincerely,

Prof. H. W. SNYMAN,
Dean, Faculty of Medicine.

SPAIN

[Translation (Spanish)]

NATIONAL INSTITUTE OF ONCOLOGY,
Madrid, April 13, 1959.

DEAR SENATOR: In reply to your kind letter of March 18 of this year, in which you ask our opinion on U.S. Government aid for cancer research, it is an honor and a pleasure for me to tell you the following:

The organization of the fight against cancer in Spain is centered in the National Cancer Institute, of Madrid, under the supervision of the Director General for [Public] Health, which carries on the fight as regards aid and research as well as its social and educational aspects. In addition, there are oncological centers in the provinces, such as the center of the S. Pablo Hospital of Barcelona, the Radiosurgical Center of Guipuzcoa, the center of the School of Medicine of Sevilla, and the centers of the provincial hospitals of Zaragoza, Sevilla, and Basurto de Bilbao. In all of these, tumor sufferers are diagnosed and treated by way of surgery, X-ray and radiumtherapy, radioactive isotopes (in some centers cobalt is used), and chemotherapy.

With regard to research, our activity is modest and proceeds on the basis of Sanz' cancer origin theory and Ehrlich's ascitic tumor theory. Attention is also given to electrophoretic research on patients with different types of tumors and divergent conditions. This work is being carried on with the electrophoresis equipment which the American Society of Friends of Spain had donated to Spain [i.e.], to the Spanish Anti-Cancer Association.

For our part, we have initiated a project on the production of antibodies against tumorous cells, for the purpose of tracing the antibodies with radioactive isotopes C and I, principally with the idea, also being worked on by other researchers, of achieving a specific action against the tumorous cell, which acts as antigen, by fixation upon it, selectively, of the corresponding antibody. If this is achieved, it is possible to successfully act on the shifting and stable tumorous cells produced by the metastases.

Another problem which we are trying to investigate is the morbility of cancer, by taking into consideration that one of the "musts" in any fight is to know the enemy who is to be fought as well as possible. With that objective in mind and in close collaboration with the Spanish Anti-Cancer Association, we have issued a pamphlet entitled "Confidential Information on Tumors," which has been distributed all over Spain, and the first reports have already begun to come in.

Aid by the U.S. Government in the fight against cancer.—Insofar as U.S. Government aid for the fight against cancer in general is concerned, I believe that it could be very important and might be done as follows:

(1) By providing funds for the travel of Spanish physicians and biologists to the different world centers, in order to enable them to learn or perfect the necessary techniques of cancer research;

(2) By facilitating the stay of Spanish doctors in the United States, or wherever deemed appropriate, for periods of from 2 to 3 years, as fellowship students or medical assistants at the different service agencies or laboratories;

(3) By including in American aid to Spain a provision under which it would be possible to acquire equipment for treatment as well as for research;

(4) By informing periodically the National Cancer Institute of the projects set up, their progress, and the results obtained which are apt to be considered the most up to date in the whole world;

(5) By making available the necessary materials for carrying on research on concrete subject matters, feasible of realization in Spain;

(6) By making available new chemotherapic methods for testing in Spain.

These are the considerations which I beg to submit in compliance with your desire and in hopes that through the collaboration of all of us cancer will cease to be a problem.

Sincerely,

J. SANZ IBAÑEZ,
Director of the National Cancer Institute, Madrid, Spain.

UGANDA

MAKERERE COLLEGE,
THE UNIVERSITY COLLEGE OF EAST AFRICA,
Kampala, Uganda, April 2, 1959.

DEAR SENATOR HUMPHREY, Thank you for your kindly request for comments as expressed in your letter on the subject of international research on the cancer problem.

As one who personally has benefitted greatly from the help, generous hospitality and advice of many citizens and institutions in the United States, any assistance I can give is fully at your disposal. May I also say that I write of problems that I think should be tackled urgently by some organization, but it is far from my wish to suggest that it is the duty of the people of the United States alone to support these activities knowing as I do the heavy burdens they have imposed upon themselves in order to assist less fortunate countries.

I write as one who for 14 years past has been studying disease in the central part of Africa. While Africa, and the tropics, have long been considered as affording, as indeed they do, excellent opportunities for the study of infective and parasitic disease, it is only in recent years that the wonderful opportunities that they offer for the study of nonparasitic disease has been appreciated. The recent interest taken in the rarity of coronary artery disease is only one instance of these opportunities, but within my personal experience the incidence and manifestations of cosmopolitan diseases are quite different in Africa from Europe or the U.S.A. This is true not only of coronary artery disease but of hypertension, rheumatic fever, bacterial endocorditis, rheumatoid arthritis, diabetes mallitus, osteitis deformans, multiple sclerosis, endocrine diseases and many other diseases as well as of cancer. The study of the reasons why a disease is infrequent in any community may be quite as revealing as studies in an area where a particular disease is very frequent.

Our studies over the last few years in Uganda have shown us that cancer is far more frequent in Africa than had ever been imagined but that the types of cancer which occur and the sites in which they occur are utterly different from those recognized in Europe and the U.S.A. This suggests that many types of cancer may be due to influences from which it may be possible to protect people. Cancer of the large bowel, for instance, is very uncommon indeed in Africans in Uganda, though it might, on many counts, be expected to be common.

Like most countries in the tropics we are ill staffed and scantily equipped. We can study in breadth but not in depth. We can observe these differences and confirm them with our own resources, we cannot investigate them fully without men, money and materials, and these would be needed over a long period and would have to include, at least in Africa, both provision of laboratories and housing.

If then I had to suggest what the U.S. Government could do in order to strengthen research in cancer throughout the world, I would humbly suggest that it attempt to reorientate some part of its research resources in this field away from the temperate zones, where the cancer problems are generally much the same, to the tropical regions where they seem to be very different. I give this first priority rather than exchange fellowships or any detailed program because it is a reorientation in ideas which I think is needed. I do not think that any worker in the cancer field in the Tropics is unable to obtain reasonable support for his own researches, for in my experience the cancer research organizations have always been most sympathetic and helpful. It is rather to encourage young men and women with an interest in cancer research to consider going to, and working in the tropics and to make it possible for them to do so.

I have in recent months indicated some specific lines of work which I consider worth following up, both to the International Union Against Cancer, to the National Institute of Cancer and to the World Health Organization and should you wish, I could inform you of these lines of work. But, as I read your letter,

I think that you are more concerned with the broad aspects rather than the detailed.

It only remains for me to assure you that the resources of our small cancer organization in Uganda and the facilities of my department, such as they are, would be willingly placed at the disposal of visiting American workers, or of any other visitors.

With best wishes.

Yours sincerely,

J. N. P. DAVIES,
Professor of Pathology.

MAKERERE COLLEGE,
THE UNIVERSITY COLLEGE OF EAST AFRICA,
Kampala, Uganda, April 28, 1959.

DEAR SENATOR HUMPHREY: Thank you for your letter of April 9. I am gladly sending you some of the more detailed proposals I have put up at various times to various organizations but as many of these are still under consideration by these bodies, I would prefer to put them up to you in a different form. Many of these ideas we are anxious to pursue, and would do so did our resources in men, accommodation—both living and laboratory—and money allow.

I will put these ideas seriatim starting with the more general ones first. They refer primarily, of course, to Africa.

(1) Exploration of the hormonal background of Africans. It is now clear from both direct observations and simple estimations that the hormonal background of the African differs widely from the European. The cause is unknown, the effects largely undetermined but it seems to influence powerfully the cancer pattern as it does the pattern of many other diseases.

(2) Exploration of the causes and effects of liver disease in Africans. Liver disease is very common, its causes, malnutrition? virus infection? poisonous plants? and the effects produced, are little understood. It may be all important in affecting the hormonal background. It certainly seems to influence the cancer pattern profoundly, notably in regard to liver cancer.

(3) Exploration of the alimentary canal of Africans in relation to secretion and absorption with the view to seeking for factors to explain the low incidence of colonic cancer.

(4) Studies of the bones of Africans in regard to—

(*a*) the apparent low incidence of tumors of skeletal bone.

(*b*) the very high incidence of jaw tumors.

This seems to be a subject of wide interest in the Tropics of more specific problems.

(5) Study of cancer in children in the Tropics with special reference to the apparent low incidence of leukemia and brain tumors.

(6) Study of the incidence and frequency of eye tumors with special reference to the apparent high frequency of carcinoma of the conjunctiva.

(7) Study of the apparently very high incidence of reticulo-endothelial tumors both in adults and children.

(8) Study of the varieties of tumors, rare or uncommon, in temperate regions but common in some areas of the Tropics, e.g., in Africa, Kaposi's sarcoma.

(9) Another separate issue is the vast opportunities for cancer chemotherapy trials in the Tropics. Radio therapeutic services are rare or nonexistent, radiotherapists scarce anywhere. Yet large numbers of highly malignant tumors present to hospitals beyond hope of surgical relief and for whom at present no treatment can be offered. In Uganda we have many such cases, plus a followup system that could be extended, but our staffing limitations prevent us from setting up a chemotherapy unit.

I put these ideas forward as problems worthy of urgent study in the Tropics. Some can only be studied there. Each of these, and there are many others, require detailed exploration and this over a long time. I put these forward realizing that there are many others familiar to those working in the Tropics equally worth considering.

We are in Uganda fully extended with our existing program and detailed entry into these fields can only be made by outside help.

As I have said, I have put forward these ideas to other organizations in rather different terms. In this letter, I have sought to stress those particular problems which, could answers be found, would have important consequences to

the world as a whole. There are, of course, many problems that are of peculiar local interest only. These I have not mentioned. You are free to use this information as you wish. But I would like to make one final observation. The list looks formidable, and some might think that many of these problems should have been tackled a while ago. This may be so and I don't wish to labor the reasons why they have not been studied. Only to say that in my experience the cancer research organizations I have dealt with have been most generous and sympathetic to any proposals I and my colleagues have put up. But their resources, particularly in manpower, have been limited.

Yours sincerely,

J. N. P. DAVIES,
Professor of Pathology.

VIETNAM

REPUBLIC OF VIETNAM,
PRESIDENCY, ATOMIC ENERGY OFFICE,
June 1, 1959.

DEAR MR. SENATOR: Thank you for your letter of March 31 in which you request my opinion as to what steps might be taken in order to render more effective the combat against cancer in my country; viz, Vietnam.

In Vietnam the problem of cancer is almost entirely unexplored. One positive undertaking would be the setting up of a cancer research institute devoted to this problem, where informed cancerologists from the United States could come and carry out research work, while at the same time they could impart their knowledge to promising local scientists and train them to carry on such work themselves.

Research subjects of specific pertinence to Vietnam are numerous, and include investigations into the reasons for the high incidence of diverse forms of cancer of the sex organs, into the etiological causes for the unusual prevalence of primary cancer of the liver, the probable relationship between this latter and the frequency of hepatic siderosis (i.e., accumulation of iron deposits in the liver), the connections between this last phenomenon and local eating habits, drinking water, etc.

The usefulness of such an institute derives from the fact that at present no university in Vietnam possesses a cancer research department and that the national cancer institute, which is being built by the Ministry of Health in Saigon, will be devoted entirely to therapy, and, besides, has very limited funds.

I should like to express my appreciation for your interest, and remain,

Yours sincerely,

Prof. N. P. BUU-HOÏ.

B. Correspondence with epilepsy experts

Senator HUMPHREY. Within part 1, pages 82 ff, was the testimony by the physician rightly known as the Father of Modern Epilepsy Research, the late Dr. William Lennox. It is appropriate that this subcommittee now give further attention to the international effort against this scourge.

Just as we have cited correspondence from cancer experts supplementing the testimony of Dr. Papanicolaou, so now we cite a few of the many letters which we have received from all over the world on problems of epilepsy.

As Dr. Lennox pointed out, this is a disease to which far too little medical and other attention has been given in years past. It is not a killing disease, as such, but it can be a seriously disabling disease. Fortunately, up to 80 percent of epilepsy cases can now be controlled because of the miracles of medical drug research.

In countless fields of endeavor epileptics are making splendid contributions to their communities. They live wholesome, constructive lives. They more than uphold their obligations as members of the family of man. But still there clings to epilepsy an ancient stigma

and one so severe that often needless tragedy is brought into countless homes of those who are afflicted with it.

Fortunately, modern science has made it possible to remove the fog of fear and apprehension about epilepsy. Now it remains for modern understanding on the part of the public once and for all to erase the unjustified stigma which has so long brought needless grief to so many.

History confirms that despite their disease, epileptics have made superb contributions to mankind. It is believed by some that the Apostle Saint Paul was an epileptic, as were perhaps Mohammed and Buddha. Others whom scientists believe to have had this affliction include Socrates, Julius Caesar, Alexander the Great, Peter the Great, William Pitt, Fëdor Dostoevski, Napoleon, Byron, Emmanuel Swedeborg, and others.

But whether the epileptic be famous or unknown, he is still a human being.

The very least we can assure the sufferers from this disease is respect and understanding. Moreover, they are entitled, practically speaking, to adequate job opportunities, so that every man and woman can work with pride and dignity, earning his or her own way.

There follow now excerpts from a few of the communications received from physicians and others specializing in epilepsy problems. These messages supplement the comments on the work of the International League Against Epilepsy which may be found on page 829 ff.

A widely reprinted article by Paul de Kruif is initially printed as a further guide to laymen.

[From the Reader's Digest]

THEY'RE BEATING THE DEVIL OUT OF EPILEPSY

(By Paul de Kruif)

For ages, epilepsy has been a sinister mystery. Epileptics have been outcasts; their parents have felt hopeless and ashamed. Today 750,000 suffer the terror of epileptic seizure in our country. Belief persists that epilepsy tends to get worse, usually ending in mental decay.

Yet, the fact is that many epileptics get well spontaneously; and powerful new medicines in the hands of experienced doctors can rid still more victims of their seizures. These happy events are now a probability in 8 cases out of 10.

Still epileptics go on convulsing. "This need not be," says Dr. William G. Lennox, famous expert in the field. Dr. Lennox [18] carries on his work at Children's Hospital in Boston, leading center in the fight on epilepsy.

Thirty years ago Dr. Lennox declared his own private war on epilepsy when a close relative was hit by the terror. He became master of the weird ins and outs of the sickness that could show itself by furious convulsions, or just by momentary blackouts of consciousness; or by fogs of mental confusion, nightmares, unaccountable falling down or bursts of dangerous rage.

Any or all these, alone or together, might spell epilepsy to expert doctors. Seizures have one helpful peculiarity. They're paroxysmal. Most of the time the average seizure victim seems fit as a fiddle. The cause of the paroxysms? That was still a mystery after Dr. Lennox and Prof. Stanley Cobb had dug for it for 15 years.

Then the Austrian genius Hans Berger demonstrated that the human brain has a constant electrical beat, a rhythm. When these pulses were picked up by electrodes and amplified, they wrote a smooth ripple on moving strips of paper.

Berger's machine, the electroencephalograph (EEG), told Lennox and his coworkers, Dr. and Mrs. Frederick A. Gibbs, an exciting story. In every type of epileptic fit the quiet ripple of normal brain waves goes haywire, a different

[18] Author of "Science and Seizures," Harper.

burst for each kind of fit. In convulsions (grand mal) the rhythm is faster, the waves bigger. In blackout (petit mal) waves alternate, fast then slow. During epileptic confusion (psychomotor) the waves are much bigger and slower than normal.

By 1940 the Boston group had proved that epilepsy is a temporary electrical storm in the brain—an upset of circuits connecting billions of brain cells, the neurons. The EEG recorded badly upset waves, even with no outward seizures. It showed that sudden spells of bad behavior were sometimes epilepsy. It revealed which treatment made victims worse, what chemical might have a chance to make them better.

Systematic brain-wave surveys uncovered a curious fact: For every out-and-out epileptic, there are 20 persons with slightly abnormal brain waves—no seizures, but may be predisposed. What the miracle told held hope. The Boston searchers questioned families in which epilepsy had appeared. They learned that of those relatives who had suffered convulsions fully one-half had only a few, which faded away without treatment. Nature, stabilizing their abnormal brain waves, had cured them. The EEG helped prove that time is on the side of the epileptic, whose disorder is primarily one of youth.

The scientists still had a black devil to fight: the belief that epileptics progress to mental deterioration. Of a series of 1,640 outpatient victims, only 7 percent were mentally deteriorated. Mental decay is not common among epileptics. Dr. A. Louise Collins, of Boston, found the average IQ of 300 office patients to be above the norm.

At the bottom of this cruel superstitution is a statistical blunder. Old surveys dealt only with institutionalized cases, neglecting the far greater outside epileptic population.

The majority of the deteriorated drift into epileptic colonies and mental hospitals; almost 10 percent of the 600,000 patients in the latter are, or were, epileptic. The horrible thing is that in these hospitals you'll find many no longer convulsing. There is not enough social service to find them useful work; they're a stagnant pool of the unwanted.

Of course, years of heavy seizures, unrelieved, can and do result in deterioration. But the cause of the bulk of epileptic deterioration is injury to the brain, at birth or afterward, or infections like encephalitis.

Until 15 years ago, about the only relief offered seizure victims was through sedatives like phenobarbital, which is still a valuable aid. Then Drs. Tracy J. Putnam and H. Houston Merritt, of Harvard, found that the drug dilantin wiped out or cut down seizures of 100 out of 118 supersevere epileptics.

Dilantin and then its relative, mesantoin, were a godsend against grand mal convulsions. But they didn't clear up petit mal blackouts, often made them worse. Then a new chemical, tridione, came to the rescue. It was startling how it brought sharp, clearheaded life to thousands of petit mal victims, right away, after they'd lived for years muddle-headed by daily blackouts.

Dilantin and tridione are not sedatives; they're like vitamins, chemically correcting sick neurons. The chemical precision of dilantin's action can be amazing.

One patient named June had been ripped by thousands of convulsions in 20 years. All treatment had failed. Then dilantin. On this medicine, taken faithfully every day for 12 years, not a seizure. Then the doctor cut down the dose from four capsules to three. In a day June suffered a burst of six bad convulsions. Back on the old dose, she is again as if she had no epilepsy.

Most patients don't have to take these medicines permanently; usually they'll be able to stop after attacks are controlled. The treatment must be under a doctor's supervision; in some cases dilantin brings on wobbly walking, rashes, swollen gums. In the early days of their use, a few patients died from anemia brought on by mesantoin or tridione. So doctors watch blood counts sharply.

This is epilepsy's sadness: When seizures have been conquered, social treatment has only just begun. Patients whose epilepsy is controlled may still be ostracized. That's one devil that haunts them.

Many States forbid the marriage of anyone afflicted with epilepsy. Such laws are 50 years behind the times. Parents are ashamed, believing they've tainted their children. Yet epilepsy is not inherited; only a predisposition to it may or may not be passed on. Marriage and children are possible for seizure victims otherwise normal, says Dr. Lennox after studying the families of 4,000 patients.

Another demon robs many ex-victims of the best chance to solidify recovery. They feel fine; they want to work; but many are told that rest is best. Actually, inactivity tends to bring seizures back. It's one of the beautiful discoveries of the researchers that active muscle and brain cells brew a chemistry that fights bad brain waves. There are far fewer seizures when children are studying and adults are working, yet most victims are denied work—even at jobs they could do safely and well.

The epileptic's hopes for an education are blasted by many a school and college. But at the University of Michigan it has been proved what epilepsy victims can do. A study of 93 epileptic students showed that two-thirds did good work. In many, epileptic attacks diminished. Of 63 answering a questionnaire, all had jobs—10 in the military, 8 in teaching, others as lawyers, doctors, and engineers. Most of them did this before today's great medicines became available.

Should we give victims a chance to learn? Philosopher Pascal did pretty well with his thinking; Van Gogh wasn't a bad artist; Dostoievsky was no slouch of a writer. All were epileptics.

It's the faith of researchers that not sermons but more science will cast the devils out of epilepsy. Saddest and most difficult to treat are children whose brains have been infected by bacteria or virus (encephalitis). Drs. F. W. Stamps and Ernest Haase, working with Dr. Gibbs at the University of Illinois Medical School, found help for a hopeful number of these cases from the antibiotic aureomycin. More powerful or safer antiepileptics, such as phenurone and hibicon, are being tried out in clinics across the country.

The family doctor, interested in the patient as a person and not averse to calling expert aid, is usually in the best position to care for most patients, say the experts. The doctor's relief of the unjustified fears of the family is as important as relief of the patient's seizures.

Doctors and patients need more than new medicines. The public must drop its age-old ignorance and prejudices and accept the epileptic as one who, except for his occasional seizure, is a normal person.

AUSTRIA

WIEN, *July 15, 1959.*

DEAR SENATOR: Thank you very much for your friendly invitation to cooperate with the Subcommittee on Reorganization and International Organizations of the U.S. Senate on international medical research into epilepsy. I enclose some reprints of papers regarding this subject. I am sorry that they are in German but I have no opportunity to translate them in the moment.

In general I agree very much with the necessity to intensify international medical research and assistance in this field, because according to my experience there is a great lack of understanding of modern developments in somatic and psychological research on the side of general practitioners but also with some neuropsychiatrists all over the world. We find too much therapeutic pessimism and resignation. Again and again medical treatment is carried out with doses of drugs that are too small as well as with too little imagination in the variation or combination of different antiepileptics. Also the medical treatment often does not extend over sufficient length of time. There is also a great neglect in the necessary combination of psychotherapy and social care for the patient himself and his surroundings. Working with adolescents mainly we found that in the majority of cases resistance against drugs was caused by conscious and unconscious psychic resistance against the therapy on the side of the patient or more often that of the mother or other important people around the patient. When it was possible to overcome this attitude through some kind of psychotherapy the results of the drugs changed remarkably for the better. Also allergic reactions against the drugs are often caused by this unconscious negative attitude.

We had the opportunity by a psychological test quantitatively to verify the well-known overprotection of the mothers of epileptic children as a result of unconscious guilt feelings arising from hidden aggressions. This typical neurotic atmosphere in families with epileptic children should be handled very carefully by caseworkers highly trained in this field.

We generally believe that the epileptic, especially the epileptic child, should as much as possible be treated in a normal milieu. That means that we prefer normal school routine and working places to epileptic colonies. Only difficult

cases or such where the epilepsy is combined with more expressed neurological symptoms or mental deficiency should be treated in special institutions. We made the experience that if the teacher, e.g., is not terrified by single epileptic attacks, also the children accept them without being harmed.

According to our experience the so-called epileptic personality which plays such a great role in European psychiatry is to some extent the result of the attitude of the patient as well as that of his surroundings to the illness. Thus there is a certain prophylaxis possible by preventive psychotherapy (H. Hoff).

The main difficulty that we find in Europe consists in providing suitable working places. In this respect an enlightenment of the public would be desirable but in reality we can only hope for an improvement of the situation from legal measures (sheltered workshops).

I hope I was able to contribute a little to a solution of the problems you are dealing with in your committee.

I am,

Yours sincerely,

HANS STROTZKA,
Medical Specialist, Neurology and Psychiatry.

CANADA

THE MONTREAL CHILDREN'S HOSPITAL,
Montreal, Quebec, July 14, 1959.

DEAR SENATOR HUMPHREY: Thank you, sir, for your kind invitation to participate in the activities of your committee by submitting my views on the problem of epilepsy.

As you well know the difficulties involved in an understanding of epilepsy are varied and many, so much so that many epileptologists prefer to speak of this heterogeneous group of disorders as "the epilepsies."

My wife, a neurologist, and I, a medical geneticist, have been engaged in a study of the genetics of convulsive disorders for the past 8 years. We take great pleasure in enclosing a manuscript entitled "Genetics of Convulsive Disorders. 1. Introduction, Problems, Methods, and Base-Lines," in which we outline certain aspects of our work. This paper has been accepted for publication and will appear soon in Neurology.

If my wife and I can be of any further help to you, we would consider it a great honor and privilege to comply.

Sincerely,

JULIUS D. METRAKOS, Ph. D.,
Department of Medical Genetics.

GENETICS OF CONVULSIVE DISORDERS

PART 1. INTRODUCTION, PROBLEMS, METHODS, AND BASE-LINES

(By Julius D. Metrakos, Ph. D., and Katherine Metrakos, M.D.)

(The summary alone is reprinted below)

VII. SUMMARY

1. Certain difficulties and misconceptions regarding the terms "heredity" and "epilepsy" were considered primarily from the geneticist's point of view. The two terms are not mutually exclusive, for a trait such as a convulsive disorder may be dependent upon both hereditary and environmental factors for its expression.

2. The difficulties of defining what constitutes an affected individual for purposes of a genetic analysis were also considered. It has been suggested that the genes responsible for convulsions may be divided into three major categories: threshold genes, cerebral disease genes, and epilepsy genes. The interaction and irregular expression of these genes may be influenced by the phenomena of expressivity, penetrance, and chronicity.

3. For the purposes of the present and subsequent papers, certain general methods of listing and comparing different orders of near relatives of convulsant and nonconvulsant probands were presented.

4. The prevalence of children with a history of having had at least 1 convulsion, among 1,000 admissions, was found to be 11.50 ± 1.01 percent. If children who were admitted because of their convulsions are omitted, the prevalence is reduced to 8.76 ± 0.91 percent. The prevalence is reduced still further to 6.55 ± 0.80 percent if children who had convulsions as an associated symptom of their disease are also omitted.

5. The prevalence of individuals with a history of having had at least one convulsion among most of the different orders of near relatives of convulsion patients of a pediatric hospital was significantly higher than for the near relatives of nonconvulsant patients who were drawn from the same hospital population. When all the near relatives (parents, siblings, aunts, and uncles, grandparents, and cousins) are considered together, the prevalence for the convulsant group (4.11 ± 0.42 percent) is 3.1 times and significantly higher (P=.001) than for the control group (1.34 ± 0.17 percent).

6. It is concluded that the data strongly suggest a familial distribution for convulsions among the near relatives of this highly heteregeneous group of children with a history of convulsions; however, the distribution is probably not uniformly distributed throughout all the families.

PERU

LIMA, *August 4, 1959.*

GENTLEMAN: I am thanking you very much for your letter of June 3 and for your nice invitation to collaborate on the high purposes of the subcommittee that you head, with observations on international medical research into epilepsy. Before everything, I congratulate the Subcommittee on Reorganization and International Organizations for your intention to write up a section devoted to epilepsy as one particular problem requiring intensified and broad-gaged cooperation in research. With much pleasure I accept the cooperation that you asked me. I have received and reviewed the two prints of the committee (April 10 and May 11, 1959) that seem to me very valuable and interesting. Thanks.

One brief information of my studies about epilepsy in Peru, is in "Upon certain * * *" that I enclose (annex 1) which is referring to the general list of my reports "Trabajos de Psiquiatria desde 1937" (annex No. 2).

Lately, I have done one inquiry about the social situation of the epileptics in this country, which more important dates I abridge in "Some Social Aspects of Epilepsia in Peru" (annex No. 3), in which I have incorporated some dates belong of my ancient studies.[24]

Unhappily, I have not yet completed my book about epilepsy and many of my papers are out of print for which I send by ordinary mail one incomplete collection of reprints in a empast volume, which I asked you to send it after being used. I also send you in the same package summary of the articles about epilepsy. The reprints as well as the summaries carry above one signs in red that points the number of the order to the list of my papers (annex No. 2).

With much pleasure I will give additional information of any of the dates.

Waiting for your nice news, I am

Sincerely yours,

FEDERICO SAL Y ROSAS.

ANNEX NO. 1

NOTES UPON CERTAIN RESULTS IN THE STUDY OF EPILEPSY UP TO DECEMBER 1952 (1957)

By Dr. Federico Sal y Rosas, Lima-Peru

(The numbers refer to the bibliography attached of the author.)

1. Treatment of epileptics by cardiazol at shock dosis (1, 2, 5, 10, 11): In 1938 before Erb and Pozniak, I observed lengthening periods between attacks. Complete remission up to the present in four cases.

2. Study of the experimental attack with cardiazol (6, 17, 18, 25, 27, 28, 29, 30, 35, 38, 39): In epileptics the period of latency and the duration of the attack are more prolonged and contrarily the convulsive threshold is lower (this last

[24] Only annexes 1 and 3 are reprinted herein.

has been verified by other authors). In one and another aspect of the experimental attack, convulsive hysterics occupy an intermediary place between epileptics and nonconvulsive subjects.

One theory concerning the biologic relationship between epilepsy and hysteria is described in 35 and 39.

3. Biologic modifications consequent to convulsive treatment (19, 30, 35, 39): Progressive increase of the threshold of convulsion, of the period of latency and the duration of the experimental attack in the course of the applications of cardiazol, which suggest that experimental epilepsy originates durable biologic modifications similar to those of epilepsy disease.

4. Comparison of certain aspects of the experimental attack between the inhabitants of Peru and those of Europe and the United States of America (36, 46, 58): The threshold of convulsion is lower in Peruvians than in those of temperate climate. The duration of the attack is in exchange greater.

5. Similar comparison between the inhabitants of the coast and the highlands of Peru (34, 41, 42, 46): The threshold of convulsion is lower in the natives of the coast.

6. Id between whites and those of Indian blood (34, 42, 58): The threshold of convulsion is lower in the Indians.

7. Other facts confirming those given in paragraphs 4, 5, and 6: In 54, 55, 64, and 70, in which the comparison between the inhabitants of Peru and those of Europe and United States of America was made in an indirect manner, revealed new facts concerning the greater convulsive disposition of the former. On the other hand, in 63, 66, 67, 68, 69, 71, 73, and 74, an identical comparison was made in relation to the coast and highlands of Peru, with the result that the coastal geographical region appears to favor the appearance of epilepsy, and that the individuals native of the coast aline themselves constantly with the groups characterized by a more intense and definite ictafinity.

All the former had led to the hypothesis of a greater convulsive susceptibility (ictafinity) of the inhabitant of the Torrid Zone in relation to that of the Temperate Zone, and of the inhabitant of the torrid regions of the coast and the Peruvian amazonia with respect to those of the highlands due to biological alterations, created by the tropical climate and incorporated into the hereditary patrimony, not by mutation but by continuous inheritance. Discussion of theory in 42, 46, 54, 58, and 75. In this last a revision of the whole problem is made.

8. Investigation of the frequency of epilepsy in the population (46, 101): The comparative data (as yet scarce) on the basis of hospital statistics indicate a greater frequency in countries of torrid than in those of temperate climate and also greater in the inhabitants of the coast of Peru than in those of the highlands.

9. Investigation of the body type (32): The anthropometric figures of epileptics are very near to those of the athletic type of Kretschmer; convulsive hysteria occupies an intermediary position between epileptics and nonconvulsive subjects.

10. Commencement of epilepsy in the different ages of life (54): The frequency curve of Peruvian epileptics (1,221 cases) is similar to that of 22 foreign authors. It presents typical variations for the essential and symptomatic forms. The curve of Peruvian epileptics has peculiarities which approximates the type of dispersal characteristic of genuine epilepsy revealing a greater ictafinity of the inhabitant of Peru.

11. Study of late epilepsy (55): Discovers clinical and psychological peculiarities with respect to ordinary epilepsy. Less frequency of late epilepsy in Peru.

12. The dysthymia of epileptics (57): Dysthymia was observed as much in the essential as in the symptomatic form; it is in general more intense in women; but the irate tinge is more accentuated in symptomatic epilepsy. Epileptic dysthymia is different to others similar for its content, which reflects the epileptic mentality; and on the other hand, the different types of mentality are expressed in the dysthymia and could serve as a diagnostic sign between the essential and symptomatic forms. Appreciable influence of the local surroundings is found. Dysthymia is diurnal, above all in the morning; no case of dysthymia of nocturnal presentation is found.

13. Etiologic conditions of symptomatic epilepsy (56): In Peruvian epileptics there is a greater proportion of cases due to infectious and toxic causes than in those of Europe and United States of America. Hereditary epilepsy is also greater in Peru; 23 percent of the cases definitely symptomatic possess epileptic relatives (ancestors, brothers, and children).

14. Epilepsy consequent to convulsive treatment (in collaboration with Honorio Delgado, 60) : Signs of convulsive predisposition in individuals who had attacks after cardiazol or electric shock (epilepsy in the family, infantile convulsions low threshold of convulsion). Attacks predominantly nocturnal and of the grand mal type; absence of focal signs.

15. The Rorschach test in Peruvian epileptics (61) : In comparison to normal controls there is an increase of global answers, of movement and color (with a decline relative to FFb and FHd) ; contracted Erlebnistypus; high stereotype; perseveration. Comparing the symptomatic and essential, those are less contracted than the organic and have less tendency to repulse the cards.

16. Forms of the first epileptic attack (64) : Epilepsy commences in 80 percent of the cases by a complete convulsive attack (type G) and in 20 percent by incomplete crisis or small signs (type P). The onset by type P is relatively greater in all the condition and states in which the convulsive phenomenon is more intense or defined (essential epilepsy, cases of early onset, grave convulsive processes). Hypothesis of work in the sense that the initiation of epilepsy by frustrated crisis is the sign of a greater convulsive disposition.

17. Organic and psychic state of the individual at onset of epilepsy (66) : Only in a third of the cases does the first attack coincide with illness, accident, or intense momentary physiological and psychological alteration; being least the participation of the psychological situations. Three-quarters of the cases begin in the early morning. A notable resistance of the epileptic to contract other diseases from that which he suffers from is found, particularly in the years previous to the onset of convulsions. (The predominance of the attacks in the early morning has been confirmed by subsequent investigations, as yet not communicated, concerning the general rhythm of the attacks).

18. Frequency of the onset of epilepsy in the seasons of the year and hours of the day (67 and 68) : Greater frequency in the cold months of the year and in the early hours of the morning. (In later investigations with respect to the general rhythm of the attacks, I have found the same phenomenon.)

19. Frequency of onset of epilepsy in the coast and highlands of Peru (69) : Under an equality of conditions, it is much more frequent on the coast than in the highlands; among the natives of the lowlands than in those of the highlands; which confirms the hypothesis of my work concerning a special ictogenic power of the tropical climate, not only as an immediate action but also as an incessant and durable ecological influence upon the inhabitant, capable of modifying the biological constitution of the population.

20. Rhythm of the attacks in the initial period of epilepsy (71) : An interval of years in 15 percent, of months in 42 percent and of days in 43 percent. The slow rhythm is more frequent in the grave and malignant processes of epilepsy. Essential epilepsy tends toward frustrated crisis and a slow rhythm at the beginning; the symptomatic to big attacks of accelerated rhythm.

21. Relationship between infantile convulsion and epilepsy (73) : Infantile "eclampsia" is more frequent in epileptics than nonepileptics; in essential epilepsy and in the grave convulsive processes, indicating that the tendency toward early attacks is so much greater when the epileptic phenomenon is more intense and defined. Hypothesis of work upon the existence of an etiologic bond between infantile convulsion and chronic epilepsy of dispositional order, both forming only aspects of a common biologic reality, ictafinity.

22. Probable influence of the phases of the moon upon epileptic attacks (74) : Greater frequency of the attacks at the new moon and least at the crescent moon; in essential epileptics the variations are less accentuated than in the symptomatics.

23. Geographic medium and convulsive terrain (75) : In this work is presented a table of the findings concerning the ecology of epilepsy and deduces that the convulsive susceptibility is in inverse ratio to the geographic latitude and height above sea level.

24. Studies upon the epileptic character in ambulatory patients (76) : The intellectual standard is not inferior to the general population. The characterological study discovers a typical pattern composed of three fundamental properties: irritability and viscosity, already known, and another trait consisting of perturbation in interindividual relations in the way of shamelessness and annoying officiousness (parasociability). The epileptic idiosyncrasy delineates itself as a unique psycho-type corresponding to the totality of the epileptic phenomenon.

25. Influence of awakeness and sleeping in epileptic attacks (83) : According with No. 68, this study shows that awakeness is more propitious than sleeping to attack precipitation.

26. Heredity of epilepsy (92 and 96): I have found that 17 percent of the families of the epileptic patients admitted to hospital "Larco Herrera" showed one or more cases of clinical epilepsy. In the nonepileptic mental patients this figure is only 7 percent.

27. Frequency of the endogenous and exogenous mental diseases in relation with the climate (101): Confirm the results of No. 95 about the favorable action of the torrid climate in the incidency of epilepsy as in other endogenous psychoses.

Annex No. 3

Notes on the Social Problem of Epilepsy in Peru

(By Federico Sal y Rosas [17])

1. According to our calculations there are 100,000 epileptics in Peru, that is to say 10 per thousand of the population. These figures are based on several personal studies which show that:

(*a*) The Peruvian inhabitant has more susceptibility to convulsive manifestations than people from temperate climate (36, 46, 54, 55, 58, 64 and 70 of Annex No. 2).

(*b*) Epilepsy is more frequent in Peru than Europe or the United States of America (46,101). Other works also demonstrate this fact, for example Rotondo et al. have found 16 per thousand epileptics in one of the slum areas of Lima (1).

2. The majority of the people have a superstitious horror to the epileptic attack and reject the patient because he is considered contagious and dangerous. Another prejudice is that manual and intellectual work aggravates the disease (2).

3. There are 3.5 million inhabitants of school age (5–19 years old) of which 36,000 are epileptic. Of these 32,000 would be able to attend school and many of the remaining 4,000 could be educated in special schools. In Peru epileptic children are excluded from teaching institutions, even those who have ability, due to the quoted prejudice. This fact aggravates illiteracy which is very serious in the country.

4. Mental capacity of epileptics is not inferior to the general population. We have found (1949) that 63.9 percent of adult epileptics had completed elementary school, 22 percent secondary school and 2 percent superior education. Of the whole group 13 percent were illiterate (3). This investigation gave similar results in research done by Lennox, Metrakos, Collins, Davies, and Eysenck (4).

5. In Peru there are 5 million adult inhabitants in the age of remunerative work (20 to 69 years old), among them there are 50,000 epileptics. The latter are universally rejected from work centers in spite of the fact that 40,000 (80 percent) are practically able to do systematic work.

6. From paragraphs 3 and 5 it is clear that in Peru 72,000 socially able epileptics are unfairly deprived of education and work, conforming thus an enormous improductive mass who has to be sustained in homes, hospitals and dispensaries, representing a heavy load for a country of small population and insufficient economic development.

7. In spite of what has been said, clearly indicating that epilepsy is a major public problem, little has been done. There is no specialized center or medical service for the treatment of epileptics. The poor epileptics apply to the dispensaries of the Sociedad de Beneficencia, among other neuropsychiatric patients, where they are provided only with phenobarbital and bromides. Modern antiepileptic medicines cannot be provided due to their high prices, therefore treatment is inadequate. Only a small minority, which we calculate forms 2–3 percent of the patients, is benefited by modern methods (6). There are no centers for the study of epilepsy nor stimulus to research. The league needs financial help to investigate some hidden aspects of the social state of Peruvian epileptics.

8. There is no legislation concerning these problems. The author is studying the following aspects referring to education and work in epileptics:

(*a*) Medical and educational care of the epileptic child; conditions for admission, control and separation from ordinary schools; health school service; after-school employment; care of epileptic children who are unable to attend ordinary schools; special schools, medico-educational clinics, and specialized medico-surgical clinics (7).

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[17] Head psychiatrist of female department of psychiatric hospital, "Victor Larco Herrera," president of the Peruvian League Against Epilepsy.

(*b*) Work regime of epileptics: conditions to enter, permanency and dismissal from work. Professional orientation, training and job allocation for epileptics; types of work for these patients; rehabilitation measures for incapable epileptics: accident insurance; minimal quantity of epileptics in enterprises.

REFERENCES

1. Rotondo, H. Aliaga, P., Garcia Pacheco, C.: Estudios de morbilidad psiquiátrica en la población urbana de Mendocita. Print of the Mental Hygiene Department of the Ministry of Health.

2. The Peruvian League Against Epilepsy lately is doing active cultural indocrination to neutralize these prejudices.

3. Sal y Rosas, F.: Le caractére epileptique. Revue de Psychologie Appliquée 3:260, 1953.

4. Juvenile epilepsy. Report on the meeting of the Research Study Group. World Health Organization, Geneva, 1957.

5. As an emergency measure the league is organizing work centers; the first one, of feminine activities, shall be inaugurated soon.

6. The League Against Epilepsy, since January 1957, a bank of antiepileptic medicines, to provide, though in a limited way, modern drugs for the poor epileptics. The league maintains customs liberation of antiepileptic medicines.

7. The first part of these data has been communicated to the Consejo Nacional de Salud Mental, Ministerio de Salud Pública (National Council for Mental Health, Ministry of Health), to justify a provisional government disposition on condition of admission, control, and separation of epileptic children in ordinary schools.

SCOTLAND

QUARRIER'S HOMES,
The Colony, Bridge of Weir, Renfrewshire, July 27, 1959.

DEAR MR. HUMPHREY: I enclose herewith a short resumé of the situation with regard to epilepsy in Scotland, and copies of notes on papers delivered but not published. It is very difficult for me to know what details you require and any point of particular interest or importance could be greatly enlarged.

I have restricted myself to Scotland, but am in a position of knowing something about England but I presume you have someone else to give you information on the work there. Probably the most important centers are the Burden Neurological Institute at Bristol where Dr. Grey Walter has worked for many years; the various sections of the Institute of Psychiatry at Maudsley Hospital, Denmark Hill, London, where Dr. Denis Hill and his coworkers are studying temporal lobe epilepsy and also the children's department under the direction of Dr. D. A. Pond. Dr. Christopher Ounsted in Oxford carried out a very interesting review of the genetics of the condition in a particular series of children. Probably the most active work in Britain at the moment is that being carried out by Dr. J. H. Margerison in London, where he is studying the incidence of temporal lobe epilepsy in epileptics in institutions. This is important work, but possibly amongst a very selected group.

The British Epilepsy Association functions very similarly to the one in Scotland and there is a prospect of their arranging an investigation into the type of patient at present resident in the various colonies in Britain. This is following the Cohen committee report of a few years ago.

Kind regards.

Yours sincerely,

J. ROMANES-DAVIDSON, M.D.,
General Director.

MEMO TO THE U.S. SENATE SUBCOMMITTEE

The medical care of epileptics in Scotland is carried out mainly at general hospitals under the National Health Service. Clinics are held at university teaching centers in Edinburg, Glasgow, Dundee, and Aberdeen.

(*a*) In Edinburgh Prof. Norman Dott, professor of neurosurgery, works at the Royal Infirmary and is interested in the surgical treatment of any case that suffers from seizures and investigation is carried out on both inpatients and outpatients at the hospital. There are various general physicians in the hospital who will see cases. Dr. J. A. Simpson has a special neurological department situated at the Northern General Hospital.

Professor Brotherston, professor of social medicine, is at the present moment sponsoring a survey of the county of Fife with regard to employment and the social difficulties of those with epilepsy.

(*b*) In Glasgow there are several neurologists who have beds and investigate epileptics. Dr. J. B. Gaylor is opening a new unit with beds available for investigation of all types of neurological diseases. Dr. Stewart Renfrew at the Royal Infirmary has the same facilities and a clinic is held there once a week with regard to employment.

(*c*) In Dundee and Aberdeen there is no special neurological investigation unit, any cases are seen by the general physicians. A special investigation of cerebal palsy in Dundee under the leadership of Professor Henderson, professor of child health, brought to light a number of cases also suffering from epilepsy. Dr. James A. Keddie of the department of health also reviewed the situation with regard to epileptics and spastic schoolchildren in that city; this was an important pilot survey.

The colony at Bridge of Weir, opened in 1906, is the only institution in Scotland whose sole purpose is the care of those with epilepsy. There is accommodation for approximately 130, which includes 40 children. Patients may come on a long- or short-term admission, some for custodial care for the rest of their lives, and others for a period of training and discharge back to normal living. With the present increase in unemployment in this country, the resettlement of these patients is becoming more difficult. At the colony there is also a clinic held twice a week for investigating children with convulsive disorders. Cases are referred from the Royal Hospital for Sick Children, Glasgow, and from paediatricians from the surrounding counties and this area in the west of Scotland covers over three-quarters of the population of the country. Some 200 new children have been seen each year for the last 8 years. At this clinic children are examined, and electroencephalograph examination carried out, and treatment advised; many return for reinvestigation or progress reports. It is a unit which can be extended to cover a more elaborate examination. Consideration has been given to introduce facilities for biochemical investigation but this is limited by lack of personnel at present. In certan cases, facilities are available for the admission of such children for a few days if it is considered necessary. The colony is not under the National Health Service but maintained by grants from welfare departments and educational authorities.

The Scottish Epilepsy Association, an offshoot of the British Epilepsy Association, is a comparatively new organization which interests itself in propaganda on behalf of those with this condition throughout Scotland, sponsoring small sheltered workshops, arranging an annual conference at which various aspects of the social problems are discussed and mainly attended by welfare workers from local authorities. There are now branches running social clubs in Edinburgh, Glasgow, Dundee, and Aberdeen. There is no special medical organization in Scotland; this is covered by the British branch of the International League Against Epilepsy which holds a meeting once a year at the National Hospital for Nervous Diseases, Queen Square, London, and at this meeting reports are given of the latest work being carried out in Britain.

SWEDEN

CLINIC FOR CONVULSIVE DISORDERS,
Stockholm, July 14, 1959.

DEAR SENATOR HUMPHREY: Your letter of invitation of June 3, 1959, has reached me today, when I am coming back from my summer vacation. I wish to express my gratitude to you and your committee for taking up the problems of epilepsy. There are still so many controversial points to discuss when this complex of disorders are at hand.

I feel honored by your request about my comments on our various problems. I will prepare a statement for you during the last part of August this year. The reason why I wait until that time is the following:

You mentioned in your letter the WHO Study Group on Juvenile Epilepsy and you had reviewed the report. This group met in London in October 1955. The group is now meeting for the second time during the week August 14 to 19 this year, and the meeting place will be our hospital here in Stockholm. Chair-

man of this meeting will be Dr. J. Romanes Davidson, from Bridge of Weir, Scotland, and I will myself act as secretary. The group will this time devote its discussions to—

(1) The organization of institutions for juvenile epileptics.
(2) Psychic disturbances in juvenile epilepsy.
(3) Rehabilitation questions.

After this meeting has been held I will contact you again. I thank you for the two committee reports you sent me (Nos. 1 and 4), and I would appreciate copies of any further reports your committee prepares.

Thanking you for the given possibility to cooperate over the borders on these vital problems, I remain,

Yours sincerely,

KARL-AXEL MELIN, M.D.

UNITED STATES

NATIONAL EPILEPSY LEAGUE, INC.,
Chicago, Ill., July 2, 1959.

DEAR SENATOR HUMPHREY: Certainly everyone in the field of voluntary health work must view with great satisfaction the efforts to meld and stimulate international medical research and assistance as an instrument at once in the highest traditions of humanity and of world peace.

This agency's international activity in the past has been devoted to supplying information to correspondents, professional and lay, from all parts of the world—mostly because the answers simply were not available in their own countries.

Much social research has been done by this agency in the fields of employment and education for epileptics and these findings have been made available both in our own country and to individuals and epilepsy organizations abroad. We believe two studies in particular to be the most definitive of their kind ever produced. These we would be pleased to turn over for translation by whichever nation desires to have them.

Along these lines of international health cooperation, I would suggest that our country's leadership would be accepted with better grace if we first placed our own house in order with respect to admission to our shores of persons with epilepsy.

As your project director well knows, because he has played a major role in researching the literature on this subject, our immigration law automatically prohibits entry into the United States of anyone with epilepsy.

Our own National Institute of Neurological Diseases and Blindness under Dr. Pearce Bailey has contributed greatly to the medical knowledge which makes this legislative proviso outdated and, as a consequence, inhuman and unfair.

The only explanation I can give for this anomalous situation is that we are financially unable to conduct adequate health education. I hope that as your international health project develops it will give proper emphasis to this problem of health education, right down to the physician, the patient, and to the general public.

Sincerely yours,

MAURICE A. MELFORD,
National Director.

WORK OF AMERICAN PUBLIC HEALTH ASSOCIATION

Senator HUMPHREY. Many fine organizations in the United States devote themselves toward meeting neurological problems of this nature. And many groups not directly concerned with epilepsy, but having broad interest in health problems have made important contributions to epilepsy's study and therapy.

I should like to cite now for the record one very worthy example. I refer to a guide for public health personnel prepared in 1958 by the Committee on Child Health of the American Public Health Association.

This guide was part of a series on community programs for handicapped children. Among the handicaps which the guide was designed to help plan for, in addition to epilepsy, were: cerebral palsy, cleft lip and cleft palate, dentofacial handicaps, emotional disturbances, hearing impairment, heart disease and rheumatic fever, orthopedic handicaps, and vision and eye problems.

I cannot too highly commend this type of broad-visioned professional planning for these youngsters.

It seems to me that many countries can profit by our experience in serving these children.

WORK OF EPI-HAB

Here is still another illustration of sound work in the United States for the epileptic and its applicability abroad.

In the eighth committee print published in our series, "Rehabilitation of the Disabled in Thirty-Seven Countries of the World," there is reference on page 145 to the fine work of the organization known as EPI–HAB. This organization has addressed itself to one of the most important problems of the epileptic, namely: adequate job opportunities.

This vocational phase is crucial. Even the finest medical work in the world to help reduce the number of seizures will not be sufficient if the epileptic still finds that he is ostracized from society and, in particular, from gainful employment. The epileptic is therefore entitled to sound job opportunities.

The experience of EPI–HAB is that if he is given such opportunity, he will work at his job well. He will have an excellent record of safety, attendance, and devotion to his duties. EPI–HAB's fine work should not, in my view, be confined to but one country. Fortunately, Frank Risch, Ph.D., EPI–HAB's project director, has been in a position to inform this committee of many fine contacts abroad. He has corresponded extensively with groups in other nations who are working on problems of rehabilitating the epileptic and who would like to collaborate. This field offers impressive opportunity for further international teamwork.

(On further opportunities for rehabilitation in our own country, see also the OVR publication, "Rehabilitation Record," September–October 1960, on the First National Institute on the Total Rehabilitation of Epileptics, sponsored by OVR, the National Epilepsy League and the University of Illinois School of Medicine.)

C. Correspondence with genetics scientists

Senator HUMPHREY. In Committee Print No. 6, "Patterns of Incidence of Certain Diseases Throughout the World—Opportunities for Research Through Epidemiology," the subcommittee stated, on page X of the foreword:

> In this, as in future publications, a theme which the reader will note as recurring again and again concerns the importance of genetic research. In all the vast gamut of current scientific endeavors which have been presented to the subcommittee, few, if any, appear more promising, more challenging, more dynamic than that of genetic research of all types. Of this, the subcommittee will comment at further length not only throughout this report, but in several of the publications which follow.

With each passing week, more and more evidence comes to our attention on the importance of applied and, particularly, of basic genetics research.

Applied genetics research has helped significantly toward finding answers to reduce needless human suffering, e.g., in alerting as to dangers of hereditary disorders.

But basic research in genetics is, by almost universal agreement among correspondents to the subcommittee, one of the most urgent of all requisites of future international scientific effort.

GENETICS VIEWED AS MOST PROMISING RESEARCH FIELD

These comments are underlined by the results of a poll taken by the American Medical Association among deans of accredited medical schools. This poll showed that most of the deans regarded biochemical research in the field of genetics as the single greatest medical achievement in the calendar year 1959. The article follows:

[From the New York Times, January 1, 1960]

EDUCATORS HAIL GAIN IN GENETICS

MEDICAL SCHOOL DEANS AGREE FIELD SHOWED GREATEST PROMISE DURING '59

CHICAGO, Dec. 31.—Research in the field of biochemical genetics provided the greatest medical achievements in 1959, most of the deans of eighty-four medical schools said in reply to a poll taken by the American Medical Association.

The results of the poll were announced today at the association's headquarters here.

Genetics is usually defined as a branch of biology that deals with the phenomena of heredity and variation, seeking to understand the causes of the resemblances and differences between parents and progeny.

In a larger sense, it would cover the resemblances and differences btween all organisms related to one another by descent. The A.M.A. further defined the field as one that dealt with man's origins, his mode of development and reproduction characteristics.

Characteristic of the comments was that of Dean William S. Stone of the University of Maryland School of Medicine, who said that the widening of knowledge about the chemistry of genetics had been the biggest single achievement in scientific medicine in 1959.

"PLANNED MAN" FORESEEN

The A.M.A. commented that many biochemical geneticists, including winners of Nobel Prizes, were looking to the time when man could "plan himself." Such planning would be toward improving mankind's intelligence, physique, and resistance to disease.

Dean Stafford L. Warren of the University of California Medical Center at Los Angeles, said that a better understanding of the biochemistry of nerve impulse inhibition was achieved in 1959, and the relation of such chemistry to epileptic seizures had led to "some revolutionary thinking."

Dean Warren said that "significant contributions" had been made to fundamental knowledge of the learning process.

"It has been possible," Dean Warren said, "to trace on a brainwave detecting device records of the learning process. As an animal learned a particular task at our center during the past year, a tracing of new electrical activity in a particular brain area could be recorded.

"This could be erased with drugs that caused the animal to temporarily forget what he had learned, but the tracing returned as the drug wore off."

He suggested that this could eventually lead to a better understanding of and treatment for mental health problems.

Nobel Prize winners, including the 1959 winners, Dr. Severo Ochoa of the New York College of Medicine and Dr. Arthur Kornberg of Stanford University, have made major contributions to biochemical genetics, the A.M.A. noted.

Dean Charles A. Doan of Ohio State University Medical School cited "the great" discoveries of Drs. Ochoa and Kornberg—their discoveries related to the biological synthesis of compounds known as "RNA" and "DNA" for short.

"The synthesis of RNA and DNA perhaps will have more far-reaching influence and effect on future biologic concepts and control than any other single advance this past year, or for many previous years," Dr. Doan said. "The potential influence of the application of this knowledge to genetics in particular can only be imagined at this time."

A HEREDITARY LINK

"The A.M.A. commented:

"DNA is acknowledged to be the chemical that, in most living things, passes on hereditary information from one generation to the next. The other chemical, RNA is a key substance in the production of protein, which is essential in the maintenance of tissue.

"RNA is found in some viruses—those which cause poliomyelitis and one called tobacco mosaic virus, which produces a disease in plants. RNA is thought also to pass on hereditary traits."

The deans also cited specific medical investigations in biochemical genetics, such as:

The phenomenon known as transduction, through which a virus can carry genetic material from one cell to another. This is considered important in the transplantation of organs.

Whether leukemia is produced by a virus.

The part enzymes play in many diseases. An enzyme is a chemical substance found largely in digestive juices that acts as a catalytic agent on other substances and then causes them to split up. Various diseases, including epilepsy and multiple sclerosis, may be of enzymatic metabolic origin.

The study of diseases in which, because of hereditary abnormality, a person fails to "manufacture" an enzyme, or manufactures an abnormal unworkable enzyme.

The possibility of "moving" heritable traits from one cell to another and the role of genetic analysis in the understanding of the mechanism of cancer.

Dean Thomas H. Hunter of the University of Virginia School of Medicine nominated the "description of chromosomal abnormalities by several groups, both here and in England," as an outstanding achievement in 1959.

"Methods have now been devised," Dr. Hunter said, "for the mapping of human chromosones which promises to shed light on the basic abnormalities in many other conditions, but these findings in particular impress me as being of most fundamental importance since they clearly and unequivocally label such abnormalities as genetic in origin."

Senator HUMPHREY. It is clear that in genetics, science may be coming closer to the very secrets of life. Genetics may lead to a solution of the problem of cancer, to the conquest of a whole host of virus diseases, and to achievements which no man can now foretell. Whether it does or not, however, the fact is that fundamental research in genetics cannot be underestimated in importance in scientific inquiry.

The United States is fortunate that it has contributed perhaps more than its share to genetic advances within the past decades. At the same time, the greatest American scientists would be the first to acknowledge our American indebtedness not only to the classic discoveries of Gregor Mendel but to more modern advances in the 20th century contributed by other nations.

From the very inception of the committee's work it established contact with leading geneticists. When the project director and I traveled in Europe, we discussed genetic problems in Paris, Geneva, and Stockholm.

At the July 9 hearings, held by the subcommittee, one of the most constructive witnesses was the Nobel winner, Prof. H. J. Muller of the University of Indiana.

The subcommittee, in its contacts with Federal agencies, has likewise consistently inquired as to their work in genetics. The National Institutes of Health, the National Science Foundation are but a few

of the organizations contacted by the subcommittee as regards genetics work and information. Much of this information is contained in past and future publications by the subcommittee.

From the wide variety of information received in all of these ways, I have culled a few illustrative letters which are reprinted in the pages that follow.

In order that our lay readers may better understand the nature of this discipline, I am going to direct that there be printed at the outset the text of an article which was published in Time magazine's issue of July 14, 1958. The cover story was devoted to the distinguished Nobel geneticist, George W. Beadle.* His communication to the subcommittee can be found among the letters from Nobel laureates on page 1039. A second communication from a Nobel laureate, Prof. Joshua Lederberg, will likewise be found in that section.

While the rush of scientific discoveries has added much to genetic knowledge since the appearance of the Time article, I believe that it provides helpful background information. The article follows:

SCIENCE

[Article in "Time," July 14, 1958]

The origin of baby dear, and the reasons for "eyes so blue" are the concern of genetics, the comparatively young, fast-developing science of heredity that is trying to solve the mystery of life, as physics works at solving the mystery of matter. Genetics has already accounted scientifically for blue eyes (even in a strictly dark-eyed family). It is working toward an explanation of how the first life appeared on earth. It is offering knowledge that may lead to the cure of cancer. And it came along just in time to warn against misuse of another young science: nuclear physics. The comparative "cleanness" (low fallout) of the test bombs that the United States was exploding in the Pacific last week was in large part a response to the warnings of the geneticists.

So young is the modern science of genetics that some of its grand old men are still alive, and some who gave it form are still only middle-aged. Outstanding among them: Prof. George Wells Beadle of Caltech, who did most to put modern genetics on its chemical basis. Geneticist Beadle is a mere 54. In his working lifetime he has seen genetics grow from a small, rather baffled specialty into a central, exciting science that is drawing the rapt attention of chemists, physicists, mathematicians, even astronomers, as well as nearly every type of biologist.

MONK AND PEAS

Genetics got its recognizable start, along with relativity, quantum theory, and nuclear physics, during the scientific revolution of the early 1900's, but it had a strange, unpublicized start more than 40 years earlier when Gregor Mendel, an Augustinian monk and natural history teacher in Brünn (now Brno, Czechoslovakia), began experimenting with peas in the monastery garden. Mendel found that the parent plants transmitted their characteristics to their descendants in a predictable, mathematical way. When purebred red-flowered peas, for instance, are crossed with white-flowered ones, all the seeds grow into plants with red flowers. But when these red hybrid plants are crossed with each other, one-fourth of their offspring bear white flowers.

Mendel concluded that the reproductive cells of peas contain factors (now called genes) of two kinds: dominant and recessive. The gene for red-floweredness is dominant; the gene for white-floweredness is recessive. When red- and white-flowered plants are mated, the seeds produced get both genes, but the dominant red gene suppresses the recessive white gene. Result: red flowers in the first generation.

The white-flowered gene, though suppressed, is still in existence. When red hybrid flowers are mated together, each seed in the second generation has a one-in-four chance of inheriting nothing but white-flowered genes. It will then

*Professor Beadle has since been appointed chancellor, University of Chicago.

bear white flowers, just as if its parents were of pure, white-flowered stock.[18] The other three-fourths of the seeds will bear red flowers.

Here was one of those extraordinary simplicities that can revolutionize a whole field of science. Mendel's observations proved that inside the cells of plants—and presumably animals too—is a mysterious mechanism, incredibly small, that rules heredity in accordance with precise mathematical laws. In 1866 Mendel published a paper to this effect in the proceedings of the Brünn Natural Science Society, but nothing happened. The world was not ripe for his ideas. In 1868, when he was appointed abbot of his monastery, his scientific career came to an end.

At the turn of the century, three scientists (Hugo De Vries in the Netherlands, Karl Correns in Germany, and Erich Tschermak in Austria) independently rediscovered Mendel's principles. They also rediscovered his long-forgotten paper, and gave him full credit; the basic principles of genetics are still known as Mendel's laws. Genetics, born at last to science's estate, went to work on the interwoven mysteries of life and heredity.

KEY CHROMOSOMES

For a while, as often happens after a scientific breakthrough, additional discoveries came easily. Several biologists, notably Walter S. Sutton in the United States, connected Mendelian inheritance with the known behavior of chromosomes, which are threadlike bodies in the nuclei of cells. When a cell divides nonsexually as in a growing plant or animal tissue, the chromosomes replicate (make copies of) themselves. Each daughter cell gets a full set, and unless something has gone wrong, it is exactly like the chromosome set of the parent cell.

In sexual reproduction, the chromosomes behave differently. The sex cells (sperm and egg) are the end results of a complicated process (meiosis or reduction division) that gives each of them half as many chromosomes as in the nonsexual cells. This reduction is necessary because the sex cells join during fertilization of the egg, and if each contributed a full set of chromosomes, the fertilized egg would have twice the normal number. But if both sperm and egg contribute half as many chromosomes, the fertilized egg gets just the right number.

Many years before the birth of the science of genetics, the chromosomes had been observed behaving in this way, but no one knew why they did. Genetics supplied the answer. Reduction division is a kind of lottery that deals the fertilized egg half a set of chromosomes from each parent, like cards dealt out to players in a two-handed card game. When maternal and paternal chromosomes are slightly different, which is generally the case, their dominant genes (units of heredity) suppress recessive genes, as Mendel's red-flowered peas suppressed white-floweredness. Each recessive gene is still riding its chromosome, and biding its time in obscurity. It can assert itself only when the corresponding gene from the other parent is also recessive. It may have to wait for many generations (in the case of humans, for hundreds of years) before it gets its innings. Then, free of suppression by a dominant gene, it produces a white-flowered plant or a blue-eyed baby. Or, if it is a bad gene, it may produce a deformed baby or a plant that bears no flowers.

NEBRASKA FARM BOY

These basic facts of genetics were becoming known about the time Geneticist George Beadle was born in 1903. His father ran a small, progressive farm near Wahoo, Nebr. (1900 population, 900). His mother died when he was 4, leaving him, his brother and sister to be mothered, after a fashion, by a succession of hired housekeepers. He remembers farm life in general with pleasure, but he still dislikes cream because he had to skim it off endless milk pans.

Wahoo was not noted for learning half a century ago, but its less-than-perfect school system did not slow or discourage Beadle's active mind. He made his own lunch, generally jelly sandwiches (he still hates jelly sandwiches) and walked the 3-mile round trip to school. When he earned a little money by such

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[18] Blue eyes in humans are also commonly due to a single recessive gene. Dark-eyed people may have this gene in its suppressed state, obtaining it from an ancestor so remote that his blue eyes have been forgotten. When two such people marry, one-fourth of their children (statistically) will have blue eyes.

rural operations as keeping bees and trapping muskrats, he bought garlic bolognas (two for 5 cents) at the Bohemian butcher shop.

Beadle might be a farmer today if the Wahoo high school had not had a teacher, Miss Bess McDonald, with the gift of infectious enthusiasm. She taught physics and chemistry, and young George fell in love with both her and her sciences. He spent long evenings at her house, wrapped in his schoolboy crush, and listened to her attempts to convert him to an unusual religious sect whose name he does not remember. He never hit the sawdust trail, but when Miss McDonald's religious appeals failed, she started persuading him to go to college. His father expected him to take over the farm, but Bess McDonald headed him for the University of Nebraska's College of Agriculture at Lincoln. A small inheritance helped, and father Beadle made no objection.

THE FRUITFLIES

Beadle entered college in 1922. At the time, genetics was still a small, specialized field, but it was growing in both importance and intellectual vogue. Its great man was Prof. Thomas Hunt Morgan of Columbia University, founder of the "fly school" of genetics. He worked with *Drosophila melanogaster*, the small fly that congregates around fruitstands and garbage pails. As living instruments of genetics they were a happy choice. They are only one-twelfth inch long, so their board bill is low. They produce new generations in about 2 weeks, multiplying rapidly in cream bottles stoppered with wads of gauze. They are easily come by; when a scientist wants wild "genotype" flies, he puts a banana on the windowsill, and the genotypes come unbidden.

In large populations of fruitflies, a few are apt to be naturally defective, with stunted wings or misshapen limbs. In some cases these defects are inherited in a Mendelian manner, like the color of Mendel's flowers. Some traits are dominant, others recessive. They are caused by mutations (damaged genes) in the flies' chromosomes (they have only four pairs), and Morgan's method was to study every possible way that mutations could be passed from generation to generation.

Thomas Hunt Morgan's work won a Nobel Prize, and his laboratory was probably the first in the United States to which European scientists and students made serious pilgrimages. Genetic knowledge dredged out of fruitflies had an enormous effect on plant and animal breeding. Geneticists believe that a great bronze statute of a *Drosophila*, suitably mutated, should be erected in some such place as Iowa, where farm production has been greatly expanded by genetically sophisticated corn.

The gospel of fruitfly genetics and its many practical applications reached young Student Beadle at the University of Nebraska, mostly through Prof. Franklin D. Keim, who was working on hybrid wheat. Beadle helped Keim in summers, and when he graduated from college in 1926, Keim got him a graduate assistantship at Cornell at $750 a year. George Beadle still intended to become some sort of agricultural expert, but when he started working at Cornell with Prof. Rollins Adams Emerson, founder of the "corn school" of genetics, he found the work so fascinating that he could not leave it. He never returned to agriculture above the backyard garden level.

ENTER RADIATION

About this time a new thing happened to genetics. Since the beginning, geneticists had regretted the scarcity of mutated flies, corn, etc., to work with. The scarcity ended in 1926 when Prof. Hermann J. Muller, now of Indiana University, discovered that X-rays applied to fruitflies or any other living organism, create a wealth of mutations, apparently by damaging the genes in their chromosomes. Muller, too, won a Nobel Prize, and soon most genetics laboratories had X-ray machines and were buzzing with dwarfed, twisted, crippled or half-alive fruitflies whose ancestors had been X-rayed.

When Mueller made this discovery, he may have heard a roll of distant thunder, but he could not have known what it meant. In the year 1926, long before Hiroshima, no man-made radioactivity was at large on earth outside the range of X-ray machines and radium capsules, and none was expected. No one suspected that in less than 20 years the mutation-producing effects of radiation would be a worldwide worry.

The new wealth supplied by Muller's X-rays gave genetics a big boost, and Beadle felt the benefit along with his colleagues. After getting his doctorate (in genetics) at Cornell in 1931, he went to the California Institute of Technology on a National Research Council fellowship. Dr. Morgan, grand maestro of the fruitflies, had moved there in 1928 to head the biology section, and several of his keenest disciples had come with him. Young Dr. Beadle found himself in the best genetic society.

Teaming up with Alfred H. Sturtevant, one of Morgan's men, Beadle worked for three years on corn and fruitfly genetics. Then he felt vaguely that something was wrong, that perhaps corn and fruitfly chromosomes were almost worked out. His friend Prof. Boris Ephrussi, a visiting embryologist from the University of Paris, agreed. Both decided that genetics had become too isolated; what it needed was ideas from other sciences.

Taking a leave from Caltech, Beadle went to Paris to work with Ephrussi. Their first joint experiment was the delicate feat of transplanting an eye from one minuscule fruitfly larva to another. After many attempts, an eye took hold and lived, and the two young scientists spent a whole day of celebration at a sidewalk café.

This was no mere stunt; it had a purpose—to find out whether the chemicals in one larva's body would affect the color of an eye transplanted from another larva. It did not work, but Beadle remained convinced that the innermost secrets of genetics and of life itself must be approached from the chemical angle.

SKILLED CELL

The idea was not original with Beadle. Every biologist marvels at the chemical virtuosity of living cells. Under the eye of the microscope they seem placid things. The slimy protoplasm inside them sometimes streams slowly, but little other action is visible. This quietude is an illusion. The typical cell, which may be only one twenty-five-thousandth of an inch long, is aboil with chemical action. It is building thousands of complex compounds and tearing other thousands to bits. It selects nutrients that it wants, and in some mysterious way absorbs them selectively through its outer wall. Tiny, mysterious bodies move through its protoplasm, and inside the nucleus reside the powerful chromosomes, which most geneticists believe are like a chemical oligarchy controlling the activities of a chemical nation. If the cell is a fertilized egg, the chromosomes possess all the information needed to build the cell into a bug or a whale or a man.

Beadle believed that the easiest way into the chromosomes' citadel would be by finding mutations with single, simple effects on an organism's chemical behavior. This is the chemical approach that revolutionized genetics. Beadle did not really get to work on it until he went to Stanford in 1937 as a full professor, and he wasted several years more before he concluded that fruitflies (almost sacred animals with geneticists) are not the best subjects for chemical genetics

In 1940 Beadle teamed up with Dr. Edward L. Tatum, a chemist now of the Rockefeller Institute, and selected a new laboratory victim, the so-called red bread mold (*Neurospora crassa*), which is really a beautiful coral pink in its natural state, unmolested by geneticists. *Neurospora* is a geneticist's dream. When properly introduced, it mates and reproduces sexually. It also grows nonsexually, so a truckload of mold with the same heredity can be grown, if desirable, from a single spore. But the best thing about *Neurospora* is that it asks for so little. It thrives on a medium containing nothing but mineral salts, sugar, and a single vitamin, biotin. Everything else that it needs it can make out of these simple foods.

MUTATED MOLD

The Beadle and Tatum plan for *Neurospora* was to try to create strains that differ from the normal mold in simple, chemical ways. Their method was simple, too. They irradiated mold with X-rays to induce mutations. Then they gathered spores formed by sexual reproduction and laid them out on a sheet of agar jelly containing the minimum nutrients that natural wild mold requires. Some of the spores sprouted and grew normally, showing that they had not been mutated in any obvious way. Some were dead, perhaps mutated too much.

A few sprouted hopefully but did not grow. These were the interesting spores. They acted as if they were trying to grow, but needed something that they could not get from the agar or produce for themselves. So when a microscope showed such a spore, it was tenderly fed with vitamins, amino acids and other growth-fostering chemicals in hope of making it perk up and grow normally.

At the start of the experiment, Beadle and Tatum resolved to make at least 1,000 tries before giving up. Such perseverence was not necessary. On the 299th try they found an ailing spore that needed only vitamin B-6 (pyridoxine) to make it grow lustily. When it had mated with a normal mold, it transmitted its need for vitamin B–6 to its descendants in the proper Mendelian manner for a single mutated gene.

This was what Beadle had been hoping for. His explanation is that the gene damaged by X-ray violence was originally responsible for producing an enzyme (organic catalyst) needed in the mold's process of making vitamin B–6 out of simpler nutrients. With the gene out of action, the process stopped, and the mold could not grow without help. It was like a human diabetic who needs an external source of the insulin that his body cannot make.

NEW ATTITUDE

When Beadle and Tatum reported their success in 1941, they had quite a collection of defective molds, each needing some extra nutrient or having some other gene-controlled chemical ailment. In a few years their imitators filled their own laboratories with molds as unnatural as the most monstrous fruit flies. The coral fluffs of normal *Neurospora* are rare in the test tubes and Petri dishes. In their place are blackish warts, lichenlike incrustations, or sick-looking globules. One horrible kind of mold grown in a moving liquid floats in bunches with limp limbs like soft, dead crabs.

An immediate, practical result of *Neurospora* genetics was the application of mold irradiation to wartime penicillin production. Much more important were the long-range scientific results. The success with *Neurospora* yielded new techniques for using molds and other small organisms as genetic tools. Out of its use flowed a new attitude toward genetics. No longer were genes considered abstract units of heredity. They became actual things, not entirely understood but known to be concerned with definite chemical action. Prof. Joshua Lederberg, 33, of the University of Wisconsin, probably the world's leading young geneticist, says that the *Neurospora* work at Stanford clinched the whole idea that genes control enzymes, and enzymes control the chemistry of life.

In 1946 Caltech needed a new head for its now famous division of biology. Professor Morgan had retired. Beadle was tapped for the job and accepted, knowing well that he would have to curtail, perhaps abandon, his personal research. Some of his friends felt that a great scientist was being wasted on a routine administrative job, and there was a precedent for their fears in the history of genetics. Mendel himself did nothing of note after he was made abbot.

But Beadle was not wasted. Since becoming chief of Caltech's biologists, he has revealed unexpected talents, including fundraising and speechmaking. His colleagues agree that his greatest talent is his way of encouraging and enhancing his division without visibly running it. He tries to function as a catalyst rather than as organizer, encouraging scientists from different disciplines to take a lively interest in each other's fields. Caltech's Division of Biology is equal to any in the world, and it operates in an atmosphere of amiability spiced with high intellectual excitement. These are Beadle's personal qualities, and he makes them infectious.

MORGAN'S HOUSE

In 1953 Beadle married young, handsome Muriel Barnett, a feature writer who still works at her newspaper job on the Los Angeles Mirror-News. She has a teenage son, Redmond Barnett, whom Beadle has legally adopted. They live on Pasadena's San Pasqual Street near the Caltech campus in a charming, rambling house that once belonged to Dr. Morgan and was sold by his widow to Caltech. The grounds glow with flowers, some of them experiments in genetics but still attractive, and a patrol of eight Siamese cats keeps watch on everything interesting. Beadle is fond of all cats, but Siamese cats are his favorites. He explains that they would be dark all over except for a mutated gene that permits dark pigments to be formed only in places (ears, tail, nose, etc.) that have a low temperature.

MAGIC DNA

Since the *Neurospora* breakthrough, chemical genetics has made startling progress. Its most important movement has been down the scale of size toward the actual chemical molecules that control life and reproduction.

Never far from the geneticist's mind is the three-letter symbol DNA, which stands for deoxyribonucleic acid. It is a giant molecule of slightly variable composition that is found in chromosomes, and it is believed to be the substance that determines heredity and governs all cells (and therefore all life) from the stronghold of the nucleus. DNA has been known to exist for years, but until postwar years little was known about it. Now it is being attacked from many angles by nearly every breed of scientist.

In 1953 Caltech's Chemist Linus Pauling, who won a Nobel Prize for his work on molecular structure, reported that the DNA molecule has a helical (spiral staircase) structure. Later that year, James D. Watson and Francis H. C. Crick in England went a step further. DNA, they said, is a double helix with two spirally rising chains of linked atomic groups and a series of horizontal members, like steps, connecting the two spirals. This molecular model, deduced mostly from X-ray diffraction photos, seemed complex and unlikely, but geneticists rejoiced when they heard about it. It was just what they needed to explain many perplexing things that they had been observing for years.

In the Watson-Crick model of DNA, the two spirals are made of five-carbon sugar molecules (deoxyribose), alternating with phosphate groups. The "steps" connecting the two spirals are made of four "bases" (adenine, guanine, thymine, cytosine) linked in pairs. The pairs can point in either direction, but adenine must always be joined to thymine and guanine to cytosine.

The charm of this structure for geneticists comes from its variability. Each step between the helices can be made of either pair of bases pointing in either direction. If the spirals should be pulled apart (the chemical bonds between bases are weak), each spiral would be left with the four bases arranged in any sequence. If arranged meaningfully along the spiral, the bases could carry information in a four-symbol code, much like digits on the magnetic tape of an electronic computer.

Here, the geneticists now believe, lies the high command of growth and reproduction. Double-helix DNA molecules, thousands of turns long and arranged by thousands in each chromosome, can carry a vast amount of coded information. They may very likely carry enough to determine whether a fertilized egg grows into a clam or an elephant. When chromosomes replicate during cell divisions, the DNA molecules that they contain presumably replicate too.

STEALTHY VIRUSES

This concept of the DNA molecule has started a vast amount of excited work. Mathematicians are trying to break its four-symbol code. Chemists are trying to dig deeper into its structure. All sorts of biologists are looking for effects of DNA on the behavior of living organisms, and they are finding a wealth of strange things. Loose DNA can penetrate certain bacteria, changing them permanently into a new strain. Many viruses are packets of DNA wrapped in a coat of protein. When a virus infects a living cell, it leaves its coat outside. The DNA enters the cell and takes charge of its activities, issuing chemical orders as if it owned the place. Its orders are simple: "Stop everything and make more virus particles packed with DNA." The cell obeys helplessly, turns its contents into virus particles, bursts, and dies.

Sometimes a virus enters a cell and makes it multiply over and over, even if its unruly growth kills the animal of which the cell is a part. Several kinds of animal cancer are caused by such viruses, whose DNA presumably takes command and makes the cells multiply wildly.

ANTICANCER ORDERS

Some geneticists think that many if not all kinds of cancer are caused by invading viruses. Others think not. But all agree that the genetics of cancer-causing viruses and cells that are their victims is a promising road toward the cure or prevention of cancer. If cancer cells multiply wildly because the DNA of a virus is giving them orders, it may be possible to countermand those orders with another kind of DNA. Knowledge about DNA may also help prevent some kinds of radiation damage.

If DNA can change bacteria from one true-breeding strain to another, it may have some similar effect on higher animals, including humans. If such a process is discovered, not much DNA will be needed. The entire supply of DNA that could control the heredity of the next generation of the human species (several billion individuals) could be put in a cube one twenty-fifth of an inch on a side.

Geneticists are so confident of their new science these days that most of them do not dodge questions about the origin of life on earth. The first living things, they say, were probably crude, simple versions of DNA. They floated in an ocean or perhaps some smaller body of water, and floating around them were all sorts of organic molecules that had been formed by chemical chance. At long intervals the crude ancestral DNA found and seized some molecule that it wanted. When it had caught enough smaller molecules, it was ready to divide into two identical parts.

This would be true growth, say the geneticists, and evolution would soon improve the original breed. DNA would eventually wrap itself in cells and retire to their nuclei to give orders. Cells would later band together into multicelled animals, but they would not escape the commands of the DNA within them. Samuel Butler wrote: "A hen is only an egg's way of making another egg." Geneticists like to make this remark more general: "All plants, and animals and humans," they say, "are DNA's way of making more DNA."

GENETICS AND BOMB TESTS

A part of the public seems to think that the chief concern of genetics is the hereditary damage that may or may not be done by the radioactive fallout from nuclear bombs and bomb tests. Geneticists insist that this matter is not a central part of their science, but none of them takes the potential effects of fallout lightly. They have spent their working lives with experimental organisms deliberately deformed by radiation. They know how recessive damaged genes persist unnoticed for many generations, only to appear (and perhaps to kill or cripple) when two of them meet in the same fertilized egg. They know that some damaged genes in humans have bad effects so subtle that they are hard to measure or count. They suspect that radiation damage to genetic material may have many unknown relations to cancer. Most of them say emphatically that the less radiation on the loose, the better it is for the world.

Beadle does not take an extreme position. "As a geneticist," he says," I am prepared to say that fallout is biologically harmful and that we must therefore recognize a moral responsibility to humanity to reduce it to the lowest possible level." He is not sure whether nuclear weapons testing has a military or other benefit that outweighs the biological harm. But, like other geneticists, he knows too much to be indifferent to the problem.

McGILL UNIVERSITY,
Montreal, Canada, November 17, 1959.

DEAR MR. SENATOR: * * *

I am not at all sure that I can add much to the testimony of your distinguished experts, but I will set down below some of the thoughts that have occurred to me in connection with this question.

1. *Exchange visits.*—In my opinion one of the best ways to strengthen international cooperation in genetic research is to encourage geneticists from the United States to visit foreign countries and to encourage geneticists from foreign countries to visit the genetic research laboratories and institutions in the United States. In my experience this kind of contact is very profound and lasting in its effect. I think that a program to encourage graduate students to make such visits in both directions would be very worthwhile also. Of course, there is some activity of this kind at the present time. This, of course, involves providing grants for travel to and in the United States and for your own geneticists in the foreign countries.

2. *The encouragement of meetings, symposia and congresses of genetics.*—In recent years, as you know, the number of invitations to hold international congresses in the United States has dropped off somewhat, mostly because of the restrictions concerning the entry of foreigners into the United States, I understand, and because of the consequent hesitancy of your scientists to become involved in the difficulties involved in extending invitations. A relaxation or revision of these regulations should prove fruitful.

From my own experience as Chairman of the General Organizing Committee for Genetics Congresses, there is another point that might be mentioned, namely, there is need for the organization of some advisory service or direct assistance which would help scientists in setting up the general organization of the admin-

istration work for larger congresses. Smaller meetings and symposia are not much of a problem but larger meetings involve complicated arrangements re finance and administration with which scientists are not familiar. Of course, each group of scientists would have to assume responsibility for the nature of the congress and other details. But most of us are quite unfamiliar with the methods of higher finance involved in collecting and spending a budget of around $100,000 to $200,000.

The provision of general grants, and of travel grants on a larger scale, even to congresses held in foreign countries would be a great help. One can, of course, say that a congress in a foreign country is the responsibility of the particular country concerned. On the other hand, certain countries which might invite a congress do not have the necessary funds to support it and the success of every congress is very dependent upon the availability of adequate funds. This aid might, of course, be extended to assistance in the publication of the proceedings which now constitute a very heavy burden on congress budgets.

3. *The status of genetic research.*—It has seemed to me that biology in general has been relegated to an inferior status in relation to physics and chemistry in this modern age of atomic radiation and the exploration of space. Our physicists and chemists are spending immensely more than our biologists and in particular we need to have real recognition of the basic role of genetics in the solution of problems concerning the future success and health of humans. Even genetic studies on experimental animals and plants are extremely important since the findings suggest solutions of such problems in humans with which, of course, experimentation is not possible. Physicists and chemists concern themselves with problems that are solvable directly and sometimes permanently, but they seldom appreciate the biological consequences and implications of their discoveries, admirable and remarkable though they may be, nor do they understand the nature of biological problems and their solutions. The press at present reports progress in these more practical sciences and often bypasses equally important advances in biology including medicine. What I am really suggesting is an improvement of the status of biology and of genetics in particular in the thinking and attitudes of government agencies and politicians in general.

I am confident that you will regard these comments as an effort to provide you with suggestions and that you will accept my assurance that anything that I have said above is in no sense intended as a criticism of the efforts of your committee or your Government to encourage progress as it does in so many fields.

Yours very sincerely,

J. W. BOYES,

John and Anne Molson Professor of Genetics and Chairman of the Department of Genetics.

WASHINGTON UNIVERSITY,
St. Louis, December 10, 1959.

DEAR SENATOR HUMPHREY: I am glad to offer comments and recommendations in the field of international collaboration of geneticists. My recommendations fall into the following categories:

1. *Provide traveling lectureships.*—The purpose would be to stimulate interest in basic research in genetics. If the lecturers were chosen for their ability to deal with the fundamental unanswered problems the result would be to attract more attention on the part of foreign students and investigators to the big unanswered questions. Perhaps the most practical way to effect this would be an expansion of the Fulbright and Smith-Mundt awards to include such traveling lectureships.

2. *Provide trained geneticists as consulting engineers.*—Protection of the genetic health of the world population through public health measures will become increasingly important in these days of increasing radiation hazard to human genes. The problem of population control through voluntary family planning is to some degree a related problem that needs attention. Medical schools and social agencies all over the world will need advice of geneticists in this sensitive and difficult area, as well as in the prevention of inborn diseases. In setting up animal and plant breeding programs the advice of specialists is needed.

3. *Provide support for every kind of international exchange of geneticists.*—Cross-fertilization of ideas with every conceivable colleague in any part of the world is of utmost importance.

4. *Support for international genetics congresses.*—International congresses are all too few and too poorly attended.

Yours truly,

HAMPTON L. CARSON, *Professor of Zoology.*

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK,
New York, N.Y., October 15, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for your kind letter of October 1 enclosing a copy of your initial committee print. Permit me to assure you that I shall always be ready and anxious to be useful to you and to your committee in any way I can.

The problem of strengthening international genetic research is obviously of great interest and concern to all geneticists. Anything that can be done to promote it would doubtless be beneficial to the human race.

With kindest wishes,

Sincerely,

THEODOSIUS DOBZHANSKY.

COPENHAGEN, *July 18, 1959.*

DEAR SIR: In reply to your honored letter of July 9, 1959, I beg to inform you as follows:

I thank you for your kind invitation to cooperation in a study in international biomedical research which the Subcommittee on International Organizations is conducting.

My colleagues and I shall be very glad to form a group which may cooperate in this international scientific teamwork. Our group is organized in connection with the University Institute for Human Genetics at the University of Copenhagen. Enclosed I am sending you a reprint summarizing the contributions (vol. 1–40) from the University Institute for Human Genetics in Copenhagen, published during 1941–58.

During recent years our investigations have chiefly concerned the hereditary diseases arisen by mutation in the Danish population, and the calculations of the mutation rate for many hereditary diseases.

In this connection it may be mentioned that in the Institute for Human Genetics we have kept for many years a medicogenetic registry including a systematic registration, a card index, so far as possible complete, covering all the more serious hereditary affections observed in Denmark during the last decades. At present more than 200,000 patients and their families out of the population of 4¼ million inhabitants are registered, and every year several thousands are added.

The mutation rate in the various diseases are being calculated and the causes of mutation are being considered and investigated.

In connection with this genetic activity of the institute it has been possible to follow and control the development and the fluctuation of the hereditary diseases in the Danish population.

The institute has a good cooperation with the Danish medical profession and the medical students at the university have as a part of their curriculum courses in general and medical genetics.

Furthermore the director of the institute is a member of the Danish Atomic Energy Commission and the Committee of Radioactivity and of Damages Caused by Radiation under the Danish Board of Health.

This Danish biomedical group, which might be a part of the International Biomedical Organizations, is lacking in financial resources and would if possible try to obtain support for its tasks and investigations through the new National Institute for International Medical Research which you mention in your letter of July 9, 1959, and we would appreciate if you would inform us how we can obtain research grants for our purposes through the new National Institute for International Medical Research.

I am,

Yours sincerely,

Prof. TAGE KEMP, M.D.,
Director of the University Institute for Human Genetics.

UNIVERSITY OF PARIS,
Paris, France, December 2, 1958.

DEAR MR. SENATOR: We have been very honored indeed by your visit last November to our department of Clinical Genetics, and most grateful for your taking all that trouble on the occasion.

As I have promised you I am sending you herewith a short note on our activities and progress in my department. I should be happy to give you all complementary details you may wish.

Please give my kind regards to Mrs. Humphrey.

Sincerely yours,

Prof. MAURICE LAMY.

[Enclosure with above letter from Prof. Lamy]

Among the results of recent progress in medicine the important decreases in the overall frequencies of mortality due to infection as well as of mortality in the neonatal and infantile periods are probably the most outstanding. As a consequence:

1. The average life span of most human populations has increased, and
2. the relative frequency of congenital disorders, as compared to infectious and traumatic morbidity, has also increased.

Accordingly, we have, in the past fifteen years, aimed to organize our way of thinking and our medical action in the line of this new trend in medicine.

Today our department of the Medical School of Paris, the "Clinique de Génétique Médicale," can be described under the following headings:

A. Inpatients wards: The clinic includes some 100 beds which make up for two wards for newborn babies and two wards for children under fifteen years of age. Our screening and the rather well generalized knowledge of our particular speciality among the medical staffs of other hospitals as well as among private general practitioners are thus that actually most of our patients under treatment are cases of hereditary diseases, mental deficiencies, gross generalized or localized malformations (of the head, the urogenital tract, the digestive organs, etc.), hereditary hematological disorders, neonatal problems.

B. Outpatients department: Outpatients suffering from congenital disorders receive medical attention from such specialists as cardiologists, gastroenterologists, dermatologists, psychiatrists, all chiefly concerned with the hereditary aspects of their field.

Also, counseling in hereditary problems is given by members of our staff to parents and relatives of defective children.

C. Teaching program: During the university year, a special lecturing is given to medical students in their third year of medical training. Daily courses encompass such topics as general human genetics, hereditary diseases, pediatrics. Each year a different major course is given weekly on metabolic diseases, malformations of the skeleton, congenital blood diseases and other important chapters in congenital diseases.

As well, are students faced in the wards with each particular problem exhibited by our patients.

D. Laboratory research: Our efforts in the past couple of years have materialized in the setting up of laboratory for research in medical genetics. A full time programme is now in progress in the following fields:

Research on normal and abnormal proteins under genetical control such as hemoglobins, scleroproteins and enzymes, by means of such technics as electrophoresis, column fractionation, etc.

Research on urinary excretion of normal and abnormal metabolites such as aminoacids and phenolic compounds, by paper and column chromatography.

Research on endocrine disorders, mainly by corticosteroid determinations in blood and urines.

As a whole, working samples of physiological liquids are obtained from our own department as well as from cooperative medical personnel belonging to other hospital centers from Paris or from the country.

E. Fieldwork: In the present, surveys are in progress for studying the genetic and non-genetic factors in the etiology of three following diseases:

Diabetes mellitus: a statistical study of the pertinent data collected from some 1,000 cases.

Retinoblastoma: this study now includes 200 cases and is aimed to exceed largely this number, thus being the most important survey published to date in the literature.

Anencephalia: an attempt to determine the general frequency and genetical background of the disease. Some 800,000 births in all parts of France have already been surveyed.

F. Twin study: Particular attention is directed to twin studies. Since 1942 we have collected some 2,000 twin records complete with usual anthropological and psychosomatic data, blood groups, pedigrees, and other relevant information.

UNIVERSITY OF PARIS,
Paris, France, April 18, 1959.

DEAR MR. SENATOR: We thank you for your kind letter of February 13th. You will find herein a brief memorandum pointing out how important it is, in our judgment, that international research in the field of clinical genetics be advanced.

Very sincerely yours.

Prof. MAURICE LAMY.

[Enclosure with above letter from Prof. Lamy]

Today no one single specialist in medicine can boast that genetics is of no interest to his particular field of interest, or will ever be. Genetics has indeed reached a degree of maturity such that it must be taken in consideration whenever one is dealing with any problem in medicine, should it be hay fever, rheumatology, cardiology. Furthermore, such vital problems as cancer are more and more felt to be tightly related to genetic ones.

One important reason for this preponderant status of genetics is the often well-emphasized change in the overall picture of modern medicine. The most important causes of death in our modern societies have frequently been compared to those of say 50 years ago. Infection, while formerly killing many new born infants and adults, is now responsible of few deaths and some 50 years hence, death from contagious diseases will be nigh nil. Conversely, accidental deaths and congenital malformations considered in a broad sense are more and more occupying a foremost position. We already know the important part played by genetic factors in the etiology of these congential malformations. Yet, much research is needed in order to evaluate the exact importance of this contribution. Extensive surveys of patients suffering from congenital diseases are still wanted to appreciate their frequency, incidence in families, relation to external factors such as maternal age or birth rank, to age, to sex * * * and this for an impressive number of diseases, although many have been or are being investigated in such respect. For instance, we have studied congenital heart disease, diabetes, and a survey on anencephalia is still in progress.

A second reason for being concerned with genetics stems from the drastic change in our social conditions. For reasons already mentioned the average life span of modern man is increasing impressively, being today some 65 years versus 40 a century ago and only 48 at the turn of the century; as well are human populations growing rapidly all over the world. These features focus the light on the duties of medicine with regard to planning of the human populations' new social structure. Although it is still very difficult to assess the exact value of the geneticist's action when he attempts to prevent the extension of genetic disorders in a population considered as a whole, such action cannot be overlooked in the future. Preventive medicine and therapy have allowed the survival and reproduction of genetic carriers which were yesterday subjected to high selective pressures. It is time records should be made from which to predict changes in future generations. Already the geneticist's advice when considering single families or individuals is paramount: he may, by defining high-risk groups, prevent the recurrence of such or such disease, and for particular patients decide which case will respond to treatment or which will not. Here also much research is called for.

Thirdly, a new field, that of biochemical genetics, is now broadening. Here again intensive research is wanted to discover metabolic diseases and then to work out their biochemical mechanism. Phenylketonuria or galactosemia respond to treatment at some degree. Such results must now be obtained for other entities which are manifold.

THE UNIVERSITY OF CONNECTICUT,
Storrs, Conn., November 5, 1959.

DEAR SENATOR HUMPHREY: In answer to your letter of October 25, concerning international cooperation in genetics, my sentiments are as follows:

1. There are in existence international congresses such as the International Congress of Genetics, the International Congress of Human Genetics, and the International Congress of Microbiology which afford a means of contact between geneticists of various countries. Funds are available through fees and other sources to help finance the travel of foreign visitors when the site is on this side of the Atlantic. I do not think Federal financial support is presently needed or is desirable in connection with these congresses. An exception might be the financing of American geneticists who are invited to a congress in a foreign country; and special funds could be made available to the National Science Foundation for this purpose.

2. There is need I think for funds to be available for publishing books, abstracting journals, and translations. I believe good books fail to get published or even written because no publishing firm can regard them as profitable. This especially concerns specialized books that have a small sale. State governments sometimes finance such books when they are on agricultural topics. Abstracting journals such as biological abstracts suffer financially and could be much improved if funds were available for this essential service. This is an area in which there could be international cooperation.

3. I believe the most effective contribution to international cooperation and good will among geneticists would be to insure the freedom of foreign visitors to travel to this country.

There are many recent cases in which distinguished geneticists from England, France, Belgium, and other countries have either been refused visas or have been granted visas too late for them to attend the event to which they were invited. The situation was so bad that last year's International Congress of Genetics was held in Canada instead of the United States because of the likelihood of important contributors not being able to enter the United States.

I would suggest that one of the duties of our scientific attachés abroad be to facilitate the granting of visas to well-known scientists who have been specifically invited to this country.

My own feeling on travel is that it should be completely free. We should have greater freedom to visit the universities on the mainland of China as well as in Russia and Iron Curtain countries. There are several Chinese geneticists with international reputations presently in China but their recent work is extremely hard to come by in this country.

Conversely I would allow anybody to enter this country whatever his political views or affiliations, so long as his reputation as a geneticst made him a bona fide contributor to the event to which he was invited.

The contents of this letter may be quoted.

Yours sincerely,

HAIG PAPAZIAN,
Assistant Professor, Department of Zoology.

THE UNIVERSITY,
Glasgow, Scotland, November 24, 1959.

DEAR SENATOR HUMPHREY: I apologize for the delay in replying to your letter of October 25 asking for my views on the question of furthering international cooperation between geneticists. I also wish to thank you for sending me the publication, "International Medical Research," which I have read with the greatest interest.

My views on the subject of international cooperation in genetics are as follows. In stating them I have interpreted your request in the sense of confining myself to human genetics, i.e., the genetics of man in health and disease, and the genetics of micro-organisms in relation to infections diseases of man. I have not considered the broader aspects of genetics as a field of purely biological inquiry, pursued with no conscious aim of furthering public health.

Why is the field of human genetics so underdeveloped? On the one hand, in every other biological aspect (physiology, pathology, psychology, ecology, etc.) we know much more about man than about any other species. On the other hand, in respect to its genetics we know less about man than about a number of animals and plants.

There is no doubt that genetics is a field of research which has lagged behind every other field of research on man. The main reason for this is that classical genetic analysis requires the results of breeding. The impossibility of experimental breeding in man, coupled with the small size of human families and the enormous interval between generations, has drastically limited the scope of this approach.

It is clear then that breaks out of this impasse in human genetics are to be expected only from approaches of two kinds: (1) Those for which the stumbling block of experimental breeding is not decisive; and (2) those which bypass it.

My suggestion is that ideas and techniques in these two directions are likely to come from experimental genetics rather than from medicine. In fact the first minor breakout, barely 1 year old, has come from the application of botanical cytological techniques (initially by Ford and colleagues in England, and Lejeune and colleagues in France) to the study of the chromosome constitution underlying certain pathological conditions (Mongolism, Klinefelter and Turner syndromes). This is a completely new approach in human genetics, though traditional in experimental genetics, which is likely to clarify within a short time the etiology of a small number of congenital conditions. It shows how important it is to further collaboration between medical men interested in medical genetics and biologists interested in general genetics.

As another instance, I may refer to an idea put forward by myself: the possibility of using segregation in somatic cells (instead of segregation in the formation of the reproductive cells) for the genetic analysis of man. Again this idea stemmed from experimental work on lower organisms and it is in the process of being explored in man by a team (with a substantial proportion of medical men) which the support of the National Institutes of Health has made possible to bring together in my own laboratory.

This sort of collaboration should be encouraged to the maximum and kept at the international level. The number of people both on the medical and on the biological side at present capable of tackling it is so limited that national restrictions would reduce enormously its efficiency.

My suggestion is, therefore, that international cooperation in human genetics can be furthered most effectively by supporting the collaboration of medical men with experimental geneticists. One of the practical ways of doing this is to establish research professorships for medical men of senior standing to be held in laboratories of experimental genetics. The reverse, research professorships for experimental geneticists of senior standing to be held in clinical laboratories, should also be explored, but I believe it less likely to be fruitful.

I have calculated what would be the expense for one of such professorships, taking my own laboratory as a basis, and assuming that the host laboratory provides the accommodation free of charge. With the level of salaries prevailing in this country, $20,000 per annum would be sufficient to cover the salary of the professor and one technician, and pay for the consumable goods for his research. In the case of a research professor coming from the United States, the cost per annum would be at least $10,000 higher. In the case of a British university, financing should be preferably in the form of an endowment, the interest of which yields the above annual sums. Alternatively it could be in the form of an annual grant guaranteed for a long period of years.

Please do not hesitate to write again if I may be of any assistance. You are, of course, welcome to quote any part of this letter to your subcommittee if you wish to do so.

With kind regards,

Yours sincerely,

G. PONTECORVO, F.R.S.,
Head of the Department of Genetics.

DIGHT INSTITUTE OF THE UNIVERSITY OF MINNESOTA

Senator HUMPHREY. Some of the most dramatic demonstrations of the value of genetic science have been achieved in counseling centers. There, the fruits of research are made available to citizens who seek answers to problems often of utmost gravity concerning themselves, their children and their grandchildren.

It is a source of deep, but I believe pardonable, pride to be able to point out that the University of Minnesota has pioneered in human genetics. Much of the credit is due to Dr. Sheldon C. Reed, Director of the Dight Institute of the University of Minnesota.

The Advisory Committee of the Dight Institute consists of Theodore C. Blegen, Chairman, John A. Anderson, John H. Bittner, Robert B. Howard, Elio D. Monachesi, Donald G. Paterson, Nelson T. Spratt, Miss Mildred Thomson, and Sheldon C. Reed (Ex Officio), Secretary.

Personnel working for the Institute are V. Elving Anderson, Marianne Briggs, James L. Erickson, Timothy Finke, Carl Hartley, James V. Higgins, Vivian E. Phillips, Elizabeth W. Reed, Sheldon C. Reed, Barbara Sando, Harriet Slater, Ann Marie Towne, Elizabeth Wendleboe.

I have corresponded with Dr. Dight on a number of matters. I believe that perhaps the best way of making available for the permanent record an account of the outstanding work of the Dight Institute is by citing its Report of Progress for the academic years 1957 to 1959 (Bulletin No. 11, 1959). A report is published biennially by the University of Minnesota Press. The text of a far-visioned 1959 law adopted by the State of Minnesota is included within that report. The law authorizes a program for the study of human genetic problems by the State Board of Health and establishes an advisory committee to assist and advise the board.

Of great interest to scientists and laymen alike will be the text of an address which was published in the 1957–1959 report. This address was delivered by His Holiness, Pope Pius XII before the International Congress on Blood Transfusion on September 5, 1958. The address is an inspiring testimonial on the role of genetics counsel which will be of interest to all faiths. The same report, I may say, also carried a related address by His Holiness, Pope Pius XII, delivered on September 12, 1958 before the Seventh International Congress on Hematology.

Dr. Dight has cited the deep importance of the Second International Congress of Human Genetics which will meet in Rome in September 1961. On January 26, 1960 he wrote:

> It is very gratifying to see the recognition given to the significance of research in genetics. Continual progress is being made in the development of research methods and in the more precise definition of problems. We appreciate the work of your subcommittee in studying this area, since a publication of this kind will certainly help to stimulate further and more adequate work.
>
> You are, of course, aware of the importance of international scientific meetings as a means of promoting collaboration. The Second International Congress of Human Genetics will be meeting in Rome in September 1961. One of the most tangible ways of aiding such a meeting is to make adequate travel funds available for those geneticists who might not otherwise be able to attend.

Excerpts from the Dight Institute report follow as an illustration of genetics work in our own country.

THE DIGHT INSTITUTE

Report of Progress

For the Academic Years 1957–1959

This report is for the period from July 1, 1957, to July 1, 1959. These have been good years for the Dight Institute. The pioneering efforts of this institute in the field of counseling in human genetics have been inter-

nationally recognized. The late Pope Pius XII recommended in a discourse of September 5, 1958, that service centers after the manner of the Dight Institute be organized everywhere. The official English translations of this discourse and of a related one are included in this biennial report.

A most significant local recognition of the usefulness of genetic counseling was expressed in the passage of an act related to human genetics by the legislature of the State of Minnesota. Routine counseling services are the function of a university only to the extent that they provide research and teaching opportunities. This means that some of the routine counseling now done at the Dight Institute should be assumed by some other organization. The group entrusted with special health services at the state level is the Minnesota State Board of Health. In theory, all state boards of health are responsible for an understanding of not only the environmental factors which influence health, but also the genetic variables involved in the health of the population. In practice, the State Board of Health receives its directives from the legislature and requests directives from the legislature if it wishes to embark on projects beyond the usual routine.

The fact that the act for human genetics was passed unanimously by both houses of the legislature is due to the sound reputation of the Dight Institute in the community and to the enthusiastic support of Dr. John S. Pearson, president of the Minnesota Human Genetics League, and the many members of the league who worked for the passage of the bill. This is a splendid illustration of how a group of lay people can be of tremendous help in the activation of a human genetics program. A short discussion and a copy of the bill for human genetics are included as a part of this report.

EDUCATIONAL PROGRAM

During the biennium a number of books appeared, to which I contributed sections or chapters. These included a commentary in "The Population Ahead," edited by Prof. Roy G. Francis and published by the University of Minnesota Press. The book is an account of the symposium on population problems initiated by the Minnesota Human Genetics League and financed by the Population Council of New York.

The book "Variables Related to Human Breast Cancer," by V. E. Anderson, H. O. Goodman and S. C. Reed, was also published in 1958 by the University of Minnesota Press. It represents ten years of hard work which attempted to evaluate the genetic and environmental variables responsible for the appearance of breast cancer. A disease of frequent occurrence such as this must be studied from every angle.

A chapter on counseling in medical genetics was written for "The Child with a Handicap," edited by E. E. Martmer, M.D., and published in 1959 by the Charles C. Thomas Company.

A chapter on types of advice given by heredity counselors was included in the report of the "Symposium on Heredity Counseling," edited by H. G. Hammons and published in 1959 by Hoeber-Harper.

One of the more interesting educational opportunities resulted from my membership in Governor Freeman's Minnesota Atomic Development Problems Committee. My contribution on radiation genetics to the publication of this committee entitled "Basic Data regarding Atomic Development Problems in Minnesota" was neither extensive nor original, but it was stark enough to stimulate some interest in the subject locally.

My job is that of educating others, but this involves educating myself first. Planned Parenthood of Minneapolis offered to pay my expenses to their International Congress in New Delhi, which meant my first trip around the world, with opportunities to visit genetics laboratories as well as the usual tourist attractions. There is no better education in human population problems than a trip around the world. I am intensely grateful to the donor who provided this one month's course in the overwhelming and still unsolved population problems of the Orient.

My education was also advanced by attendance at the seventy-fifth anniversary of the University of North Dakota in 1958. Many papers were presented concerning the remarkable change in the man-land ratio over the last few decades in that state. In order to earn an adequate living, average farm size has had to increase from 150 acres to 600. Larger farms mean fewer farmers, the excess people moving to the cities and other states. My address had the rather odd title, "After 100 Years, The Atomic Era and the Origin of Species." Darwin's book was written twenty-five years before North Dakota had a university.

The program of lectures to outside groups has been continued, more and more in the form of short courses in genetics to medical groups. During the first year of the biennium there were fifteen talks and there were eighteen during the second year.

RESEARCH

Our general policy continues to be that of concentrating on large projects of long duration and of evading the interesting small projects that individual family histories constantly suggest. Failure to stick tenaciously to the large projects would mean that they would never be completed.

1. Breast cancer.—Publication of "*Variables Related to Human Breast Cancer*" finally brought this project, started in 1944, to a close.

2. Mental retardation.—The field study of our 300 family groups, each containing at least one retarded member, is now nearing completion. About 70,000 people are included in the total population of these groups. Analysis and publication of the accumulated mountain of data will take at least two years. Dr. Elizabeth Reed and Mrs. Vivian Phillips have often doubted whether they have the mental fortitude to complete their part of the project. Now things look quite promising for them, as I take over their data and their anxieties.

The financial support for this project has come consistently from the Minnesota Human Genetics League, which through 1959 has contributed about $12,500; from a contract grant in 1950 of $2,348, State of Minnesota, Division of Public Welfare; and from grants totaling $35,871 from the National Institute of Mental Health.

3. The Nams.—This project has been completed and a rather extensive report by Mr. James Higgins has been accepted for publication by the "*American Journal of Mental Deficiency.*" This is a followup study of the descendants of three of the more energetic members of a degenerate New York State family. The three who came to Minnesota produced a kinship of 1,504 persons with an average IQ of 100.8, the same as that for the whole country. Single men had a lower average IQ than the married men because fewer of the lower IQ males got married. Two small closely related branches of the kinship had more than their share of retarded children, probably indicating a concentration of genes for low intelligence in these two families.

4. Cerebral palsy.—This study is now known as the child development project. The departments of pediatrics, obstetrics, neurology, and the Dight Institute have cooperated marvelously in getting the project off to a good start. Dr. Elving Anderson has functioned very effectively at the national and local levels in the construction of the genetic protocols necessary for the brief or detailed family studies to be made for each pregnant woman included in the study. We have found this project both instructive and enjoyable. The National Institute of Neurological Diseases and Blindness has been most generous in its financial support of the local work. Support will continue for at least 5 years.

5. Mental disorders.—I have been convinced for years that the greatest single source of social maladjustment comes from mental disorders and mental retardation. Probably the cost to society of mild mental disorders is much greater than that due to hospitalized persons. Studies of family groups with mental disorders over a number of generations are practically nonexistent. This is because such longitudinal studies demand more than one generation of successive research workers dealing with the same families. This deficiency should be remedied. At the Dight Institute the old records of the Eugenics Records Office allow such longitudinal followup studies to be made for cases in which the records have been collected with care. By coincidence the best records in the Cold Springs Harbor collection were those on mental retardation of patients and their families in Minnesota. The followup of these people and their descendants is now nearing completion. Probably the next best records are those for patients at the Warren State Hospital, at Warren, Pennsylvania. These are for mental disorders, and a branch of the Dight Institute has now been set up at Warren for the longitudinal study of these families. Our preliminary survey was carried out by Dr. David Merrell and supported by the Graduate School of the University of Minnesota and an anonymous member of the Minnesota Human Genetics League. This member has given the league $6,000 to assist with the work more recently. A generous grant of $67,720, for the three-year period starting May 1, 1959, from the National Institute of Mental Health will make the work possible. The group stationed at Warren now consist of Dr. Carl Hartley, Mrs. Elizabeth Wendelboe, and Mrs. Ann Marie Towne. Frequent circulation of personnel between Warren and Minneapolis has already

occurred and will continue. John C. Urbaitis, M.D., assistant superintendent of the hospital, has made the diagnoses and reevaluated the original ones. We hope that he will continue to provide this valuable service.

COUNSELING IN HUMAN GENETICS

The third main function of the Dight Institute continues to be of immediate practical value to the general public. There were 175 requests for information in 1957 and 249 in 1958. This brings the total "case load" to 2,202 for the twelve years of my service in this field.

There is a rapidly developing interest in the improvement of the quality of genetic counseling. At the Dight Institute we are beginning to follow up the early cases now that sufficient time has elapsed to permit the mothers to have demonstrated their reproductive behavior subsequent to the counseling.

The counseling program at the Dight Institute has received worldwide publicity. Some lessons as to what results from such publicity are very clear. By far the most widespread newspaper notices the Institute has ever received came in 1958 when the late Pope Pius XII recommended that counseling centers be set up throughout the world, similar to the "American Dight Institute."

* * * * * * *

SHELDON C. REED, *Director.*

A LAW FOR HUMAN GENETICS

By Sheldon C. Reed

It has been apparent for a long time that human genetics has important social applications. Counseling in human genetics fills a practical need for those able to obtain it. Clients have come in person to the Dight Institute from practically ever state for this service. Adequate facilities to meet the demand should be present in every state, and eventually they will be established.

In Minnesota the Genetics Research Program at the Rochester State Hospital has developed a statewide interest in genetic research and counseling far beyond what might be expected, considering the minor importance of the disease investigated, Huntington's chorea, in the total health picture. Only a momentary descent from our academic towers is necessary to discover the popular interest in the subject of heredity and its social implications, and the desire for some sort of action in the field for the benefit of everyone.

Laws concerning marriage, divorce, state guardianship, and other topics which may be related to genetic changes in the population are formulated at the State and county levels. This is also true for regulations of the more conventional sort concerned with water pollution, epidemics, and health problems of every description. Each State has its Board of Health which is technically responsible for the genetic health of the population as well as environmental factors such as parasites and sanitation. The various Boards of Health have been highly successful in their struggles with the environment but the gene has eluded them completely.

Dr. John S. Pearson, chief psychologist at the Mayo Clinic and president of the Minnesota Human Genetics League, led a successful movement intended to interest the State Board of Health in the usefulness of a human genetics unit in the State Board of Health, and to obtain authorization in the form of a law for initiating such a unit. All State agencies wish to have their powers and duties clearly defined by acts of the legislature and such action is a prerequisite to success. Wonderful cooperation of everyone approached was obtained and the following bill progressed smoothly through the appropriate committees and was passed unanimously by the Minnesota House and Senate. The bill became a law on April 24, 1959, with the signature of Governor Freeman.

The new law hardly elevates the gene to the same exalted status as *E. coli* but it is official recognition that man has genes, that something can be learned about them, and that presumably the information can be utilized to advantage. The full text of the law is included below for the benefit of some human geneticist who might like to try to introduce the gene to his legislature.

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STATE OF MINNESOTA

CHAPTER 572 OF THE SESSION LAWS 1959, SIGNED BY THE GOVERNOR APRIL 24, 1959

For an Act Relating to Human Genetics; Authorizing the State Board of Health to conduct a Program for Study of Human Genetic Problems, and Establishing an Advisory Committee Therefor.

Whereas, the science of genetics having advanced in its human applications whereby, in certain well-defined pathologic conditions and some forms of mental defect and mental illness, the possibility of recurrence can be forecast with reasonable accuracy;

Whereas, the threat of adverse effect of atomic radiation upon the heredity of a population making vitally necessary the gathering and compilation of additional knowledge in this field;

Now, therefore, it is hereby declared that the establishment of a program for the promotion of the science of genetics is a matter of state concern and a necessity in planning for public health and welfare.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. POWER AND DUTIES. The State board of health is authorized to develop and carry on a program in the field of human genetics which shall include the collection and interpretation of data relating to human hereditary diseases and pathologic conditions; the assembly, preparation and dissemination of informational material on the subject for professional counselors and the lay public; the conduct of such research studies as may stimulate reduction in the frequency of manifestation of various deleterious genes, and the provision of counseling services to the public on problems of human genetics. It shall consult and cooperate with the University of Minnesota, the Public Health Service, and the Children's Bureau of the Department of Health, Education, and Welfare, and with the nationally recognized scientific and professional organizations engaged in studying the problems of human genetics.

Section 2. GRANTS OR GIFTS. The board is authorized to receive and expend in accordance with approved plans such funds as may be granted by the Public Health Service or any other Federal agency which may appropriate funds for this purpose, or such funds as may be received as gifts from private organizations and individuals to the State for carrying out the purpose of this act.

Section 3. ADVISORY COMMITTEE ON PROBLEMS OF HUMAN GENETICS. The advisory committee on problems of human genetics is established to assist and advise the board in formulating policies and programs for the study of problems of human genetics. It shall consist of nine members who shall be appointed by the board. The first appointments shall be of three members for two-year terms, three for four-year terms, and three for six-year terms; thereafter, all subsequent appointments shall be for six-year terms. Terms of appointment shall expire on December 31st. A member shall receive no compensation for his service but may be entitled, subject to the availability of funds therefor, to reimbursement for travel expenses necessarily incurred by him in attending meetings of the committee or otherwise carrying out duties for the committee. The committee shall annually elect a chairman and vice-chairman. At least two meetings of the committee shall be held each year.

DISCOURSE OF HIS HOLINESS POPE PIUS XII TO THE INTERNATIONAL CONGRESS ON BLOOD TRANSFUSION, SEPTEMBER 5, 1958

The International Congress on Blood Transfusion, organized by the International Association of the same name, affords Us the pleasure of receiving you, gentlemen, and of being informed of your activities. After your meetings the Seventh International Congress on Hematology will be held. We are not ignorant of the increasing importance which problems concerning the blood are assuming in contemporary society nor of the practical significance of the conclusions and resolutions which you will be led to adopt. Therefore We are happy to manifest to you Our esteem and to wish you a cordial welcome. Besides, the gravity of the questions to be treated attracts Our attention in a particular way; the Church does not remain indifferent, as you know, whenever there is question of problems which involve human destiny, individual and social, temporal and eternal, whenever she can, by her presence or by a timely intervention, accomplish much good or avoid much evil.

Hematology—the science of the blood and the diseases which affect it—is of the highest importance to biology, physiology, and medicine. The blood, actually, is after a fashion the environment in which the exchanges of organic life take place: it brings to all the cells the oxygen and the elements which assure their nutrition, and at the same time takes care of the elimination of wastes. For long it was considered as intimately connected with life itself, which seemed to flow out of open wounds with it. Even today the expression "to pour out his blood" designates the sacrifice that a man makes of his life for a cause which he considers worthy of that supreme offering, and which is sometimes identified with the highest ideals that humanity can contemplate.

Since the participants of the forthcoming Congress on Hematology have asked Us to treat of certain moral questions which lie in the domain of the genetics of the blood, We intend now to take up the general aspects of these problems and thus to prepare the reply which We shall make to them. We shall therefore set forth here some biological aspects of the genetics of the blood and the problems which they raise.

SOME MEDICAL-BIOLOGICAL ASPECTS OF GENETICS OF THE BLOOD

We have already had occasion to speak of the mechanism of heredity in Our Allocation of September 7, 1953, to the First International Symposium on Medical Genetics (Discorsi e Radiomesaggi, vol. 15, p. 253 ff.), and to state at that time the important principles which were applied to the scientific data of genetics as far as they affect moral and religious questions. Nevertheless, in order to throw light upon Our further explanations, We must still mention some data recently acquired, which you have been kind enough to call to Our attention.

It is rather generally known at the present time that the red corpuscles of the blood possess certain proper characteristics and that humanity is divided into four blood groups (A, B, O, AB). If the name "antigene" is given to the capacity to provoke in an organism the formation of substances called "antibodies," susceptible of being united to the antigene and of determining at first the agglutination and then the destruction of the red corpuscles, the existence of the four groups can be explained in the following manner: groups A and B each possess a proper antigene but not the antibody which corresponds to it, whereas they do possess the antibody of the antigene which they do not have; group AB possesses the two antigenes but no antibody of the system; group O possesses no antigene but does have the two antibodies. During these last decades, the discovery of other systems has introduced considerable complexity into the exact determination of types of human blood. But what interests Us more is the discovery of the "Rhesus" factor which makes it possible to clarify the pathogenesis of the hemolytic disease of the new-born, the origin of which up to that time had remained unknown. A mother who has the "Rh negative" produces antibodies for the "Rh positive" corpuscles, and if the child which she carries within her is "Rh positive," she will cause harm to it. Since the blood groups are inherited according to the mechanism of heredity essentially in conformity with the laws of Mendel, it is evidence that to have an "Rh positive" child, the mother must have an "Rh positive" husband; if the husband is the son of parents of whom one is "Rh positive" and the other "Rh negative," there is a 50-percent probability of having "Rh positive" children; but if the parents are both "Rh positives," all the children will also be the same. When an "Rh negative" woman marries an "Rh positive" man, she will be in what is called the "Rh situation" and in potential danger of having diseased children.

When considering morbid heredity one might give equal consideration to heredity whose results are positive. But since medicine is concerned principally with harmful consequences, it is easy to understand how people have come to believe and assert that these harmful consequences predominate. Actually there is no lack of families richly endowed in which from one generation to another remarkable physical and psychic qualities are transmitted.

We may be permitted to point out still another particular case, because of the importance which it assumes in the Mediterranean areas. There is the question of two diseases which occur under two greatly different clinical aspects, but which are characterized by similar alterations of the blood system. The first of these affects certain sections of the Italian population, all of the Greek population, and all the zones of the lower Mediterranean where the Phoenician colonization has left its traces. A child is born, apparently normal, but the doctor already discerns in it the traces of the disease, which will cause its death more

or less rapidly, and usually before it is ten years old. Its development will be notably retarded, its complexion pale; the abdomen, always abnormally prominent, denotes an enormous enlargement of the spleen which often almost fills it. The most careful therapy will not be able to prolong a life of sickness and suffering; in spite of numerous blood transfusions, which are a costly burden for the families, the fatal outcome is inevitable.

At the time when Cooley and Lee succeeded in diagnosing this disease exactly among the descendants of Italian immigrants in America, Rietti, Greppi, and Micheli in Italy were describing a disease apparently completely different. Among adults leading a relatively normal life there appeared symptoms which were interpreted as a diminution of the life span of the red corpuscles. These showed morphological alterations of a congenial character, affecting their form and their interior structure as well as the hemoglobin which they contained. These clinical forms of the disease are today considered as varieties of a group which are called "Mediterranean hematological disorder." American, Italian and Greek researchers have demonstrated that the alterations of the grave and mortal disease of children, such as Cooley had described it, resembled those of the disease of Rietti, Greppi, and Micheli and of the forms which approximated it. It was then concluded that the diseased children had been begotten by two carriers of the Mediterranean hematological disease. What must be emphasized here is that individuals, who believe themselves to be perfectly healthy, can by their union provoke an easily imaginable family tragedy.

PROBLEM OF GENETICS OF THE BLOOD

The sad situations which We have described and other analogous ones, which are encountered in the domain of genetics of the blood, call for a special effort to be made in the solution of physical and moral problems that are particularly serious. We shall explain some of them according to the information which you have furnished Us, as well as the remedies which have been tried for them, and We shall consider the moral implications which they involve. In a general way, it is necessary to underline first the necessity of furnishing the public with the indispensable information concerning the blood and its heredity, in order to allow individuals and families to be on guard against lamentable consequences. For this purpose, there could be organized, after the manner of the American Dight Institute, service centers of information and consultation, which engaged and married couples could consult with full confidence on questions of heredity, in order to have greater assurance of happiness and security in their union. These centers would not only give information but would help the interested persons to apply efficacious remedies. In a work which We have been assured is authoritative in this matter (Sheldon C. Reed, "Counseling in Medical Genetics"), We have read that the chief purpose of the consultation is to make the interested persons understand the problems of genetics which appear in their families (*ibid.*, ch. III, p. 12). In almost all homes, it seems, difficult situations are met with concerning the heredity of one or more of their members. It can even happen that the husband and wife accuse each other of an anomaly which shows up in their child. Often the specialist consulted can intervene successfully to lessen the difficulty. Warned of the danger and its significance, parents will then make a decision which will be "eugenic" or "dysgenic" with regard to the hereditary characteristic under consideration. If they decide to have no more children, their decision is "eugenic," that is to say, they will no longer propagate the defective gene by begetting either diseased children or normal carriers. If, as usually happens, the probability of begetting a child carrier of this defect is less than they feared, it may be that they will decide to have other children. This decision is "dysgenic," since they propagate the defective gene rather than arrest its diffusion. In short, the effect of the genetic consultation is to encourage parents to have more children, which they would not have had without it, since the probabilities of having an unfortunate case are less than they thought.

If the consultation should seem "dysgenic" with regard to the abnormal gene, it is necessary to consider that persons, sufficiently preoccupied with the future to ask for advice, have a high conception of their duties as parents; from the moral point of view, it would be desirable that these cases become more frequent.

The Dight Institute is often asked whether the consultation has any relation to the religious duties of the person consulting (*ibid.*, pp. 15–16). Actually the genetic consultation abstracts from religious principles. It makes no reply to

parents who ask if they should have more children, and leaves to them the responsibility of the decision. The Dight Institute is therefore not a clinic meant to restrain fecundity; information is not furnished there on the way of "planning" families, since that question does not fall within its scope.

The work from which We have borrowed this information, forcefully and sharply underlines the importance of what remains to be accomplished in this domain: "Death," it says, "is the price of ignorance of the genetics of the blood groups." Fortunately, medicine has now at its disposal sufficient knowledge to help people to realize more surely the desire—so deep and so powerful in a good number of them—to have a happy family of healthy children. If the couple is sterile, the doctor will try to secure fecundity; he will put them on their guard against dangers which they do not suspect; and he will try to help them beget normal and healthy children.

Better warned of the problems posed by genetics and of the gravity of certain hereditary diseases, men of today have, more than in the past, the duty to take account of this increased knowledge so that they might forestall countless physical and moral difficulties for themselves and others. They should be attentive to whatever could cause lasting harm to their descendants and involve them in an interminable succession of miseries. Let us recall in this connection that the community of blood between persons, whether in families or in collective groups, imposes certain duties. Although the formal elements of every human community are of the psychological and moral order, the lineal descent is its material basis, which must be respected and in no way harmed.

What We say of heredity could be applied in a wide sense to the communities which are composed of the various races of the human family. But here there is greater danger of an exaggerated insistence on the meaning and value of the racial factor. It is only too clear, alas, to what excesses pride of race and racial hatred can lead: the Church is always energetically opposed to it, whether there is question of attempts at genocide or of practices inspired by what is called the "color bar." She also disapproves of every experiment of genetics which would make light of the spiritual nature of man and would treat him as on a level with any member whatsoever of the animal species.

We wish you, gentlemen, success in the continuance of your labors, which are so useful to human society. To the practical lessons of this congress will be added a more vivid consciousness of the efficacious help which you bring to so many who are sick. This realization will give you a greater ardor to fulfill your daily tasks and the certitude of having merited the esteem and gratitude of those who will owe to you the preservation of their life and health.

As a pledge of divine favors, which We call down upon you, We impart to to you, to your families, to all those who are dear to you, Our Apostolic Blessing.

D. Nutrition research

SENATOR HUMPHREY. It is increasingly clear that many of man's health problems may be lessened or solved by improving man's diet.

Nutrition research has already paid countless dividends. It has eliminated or helped reduce numerous diseases arising out of faulty diet. Control of beriberi, pellagra, rickets, scurvy, goiter and other forms of malnutrition are but a few cases in point.

Malnutrition throughout the world is still a critical problem. But even countries where the food supply is ample will benefit from increased nutrition research. I need only point, for example, to the role nutrition studies are playing in modern cardiovascular research.

The World Health Organization has given considerable attention to the needs for expanded nutrition research. On March 11–13, 1959, there was, for example, a meeting of advisers of nutrition research in Geneva.

VITAL ROLE OF DEPARTMENT OF AGRICULTURE

Here in the United States, the U.S. Department of Agriculture has played an invaluable role in nutrition research. In part II, page 412, we refer in greater detail to the extremely significant studies made under USDA and its associated auspices in many States of the Union.

SUGGESTIONS FROM DR. FREDERICK J. STARE

Many distinguished nutritionists have been in close contact with our subcommittee. I should like first to mention Dr. Frederick J. Stare, head of the Department of Nutrition, School of Public Health, Harvard University. As far back as September 1958, Dr. Stare presented constructive views to the committee on the need for expanded U.S. bilateral assistance in nutrition research abroad.

REPORT OF DR. PAUL L. DAY

A key instrumentality has been the Interdepartmental Committee on Nutrition for Defense. The work of this committee is referred to in part II, on page 395, as part of our section on the Department of Defense. It is also cited in a letter, which is reprinted below, from Dr. Paul L. Day, former President of the American Institute of Nutrition, and currently Scientific Director, Food and Drug Administration, U.S. Department of Health, Education, and Welfare.

MORE RESEARCH NEEDED

It has been said, "We are what we eat." It has also been said, "We are what we do not eat." That is, man's health is significantly shaped by what he does or does not consume in his body.

In my judgment, research in nutrition can be expected to pay immensely higher dividends in the future if adequate resources are made available, both at home and abroad.

Physicians, physiologists, biochemists and other skilled professionals in my own State of Minnesota have played a leading role, I should like to say, in many activities concerning nutrition research. Men such as Dr. Ancel Keys, Dr. W. O. Lundberg, Director of the Hormel Institute at the University of Minnesota, and innumerable others have made and are making very important contributions in various phases.

OVERCOMING SHORTAGE OF RESEARCHERS

One of our most urgent needs is for more nutrition researchers, as such. Of this problem Dr. W. H. Sebrell, Jr., Director, Institute of Nutrition Sciences, School of Public Health and Administrative Medicine, Columbia University, New York, writes:

COLUMBIA UNIVERSITY,
SCHOOL OF PUBLIC HEALTH AND ADMINISTRATIVE MEDICINE,
INSTITUTE OF NUTRITION SCIENCES,
New York, March 18, 1959.

DEAR SENATOR HUMPHREY: Dean Merritt has informed me of your interest in an international health institute. It is indeed gratifying to learn that you are personally interested in this very important area of health and medical research which offers such great opportunities for progress.

In the Institute of Nutrition Sciences we have had a great deal of contact with international health problems, especially those relating to malnutrition. It has been our experience that ill health resulting from inadequate and improper food is among the most serious of the world's health problems.

An important part of the problem is the shortage of people adequately trained in nutrition research. It is our desire here at the Columbia University Institute of Nutrition Sciences to do all that we can to train some of the people who will be so badly needed in any new program of international medical research.

You have our very best wishes for the success of your program in the use of the resources of the United States to help improve health internationally.

Sincerely yours,

W. H. SEBRELL, M.D., *Director.*

INSTITUTE OF NUTRITION FOR CENTRAL AMERICA AND PANAMA

Senator HUMPHREY. In the 9th committee print in our series, reference was made to the very important work of the organization known to us as INCAP—the Institute of Nutrition for Central America and Panama.

This information is supplemented in a letter on INCAP from the Director of the Pan American Health Organization, Dr. Abraham Horwitz.

PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION,
Washington, D.C., 3 August 1960.

DEAR SIR: Following your telephone request, I am pleased to present information concerning the Institute of Nutrition for Central America and Panama (INCAP) and its program and budget.

The INCAP is a cooperative nutrition institute created by a signed agreement among the six countries. The basic purpose of INCAP is to provide advisory services to the respective countries in their applied nutrition programs, educate and train nutrition personnel, and carry out research in the nutrition problems of the area. The Pan American Health Organization, which stimulated the formation of INCAP, is responsible for its administration on request of the INCAP Council representing the member governments. In addition, the organization provides some staff and other financial assistance.

In relation with and in addition to the basic program, INCAP carries out extensive research activities in nutritional problems, financed by individual grants for the respective specific projects.

The attached schedules present the basic program and the current research activities.

Sincerely yours,

ABRAHAM HORWITZ, *Director.*

INCAP ACTIVITIES AND SOURCE OF FUNDS

I—BASIC INCAP PROGRAM

Program	Fund source	1960 budget
Advisory Services, Education and Training		
Dietary Habits and Evaluation of Nutritional Status	Government Quota Contributions	$105,000
Protein Malnutrition and Its Prevention	PAHO	37,809
Nutritional and Dietary Requirements	The Kellogg Foundation	37,000
Interrelation Between Acute Infections and Nutritional Status	United Fruit Co	2,538
	Parke, Davis & Co	3,150
Diet and Its Effect on Chronic Diseases	Miscellaneous	2,170
Composition and Improvement of Foods		
Technical Services	Subtotal	187,667
Administrative Services		
Meetings		
INCAP Council	PAHO	3,900
Technical Advisory Committee and Consultants	PAHO	7,500
Total Basic Program		199,067

II—SPECIAL RESEARCH PROGRAM

Program	Grantor	Total period of grant	1960 budget
Investigation of the Nutritional Status of Persons Consuming a Predominantly Corn Diet.	The Research Corporation (Williams Waterman Fund).	1.III.57–29.II.61	$8,104
Preparation of a Latin American Feed Composition Table.	Interdepartmental Committee on Nutrition for National Defense.	16.X.59–30.VI.60	7,689
Significance of Diets Low in Animal Protein and Other Nutrients.	The Nutrition Foundation, Inc.	1.I.59–31.XII.60	6,224
Effect of Amino Acid Supplementation of Wheat Flour on Nitrogen Retention in Children.	Miller's National Federation.	1959–1960	15,104
Dietary Factors in Kwashiorkor	NIH	1.IX.59–31.XII.60	14,394
Endocrine Functions in Protein Malnutrition.	The Lilly Research Laboratories.	1960	2,000
Relation of Plasma Amino Acid Levels to Quality of Dietary Protein.	National Livestock and Meat Board.	1.VII.59–30.VI.61	7,500
Amino Acid Metabolism in Human Subjects.	NIH	1.I.60–31.XII.60	40,523
Interrelations Between Malnutrition and Diarrhea.	NIH	1.II.59–31.I.60	164
Interrelations Between Malnutrition and Diarrhea.	NIH	1.II.60–31.I.61	70,494
Study of the Effect of Treatment of Infections in Children 0 to 5 Years of Age in the Rural Village of Sta. Maria Cauque.	Parke, Davis & Co	1.VI.60–31.V.61	9,486
Effect of Infection on Vitamin Requirements.	Parke, Davis & Co	1.VII.60–30.VI.62	
Comparative Biochemical Study of Atherosclerotic Lesions in Populations with High and Low Frequencies of Coronary Heart Disease.	The Nutrition Foundation, Inc.	1.VII.57–30.VI.60	8,034
Atherosclerosis in Latin America	NIH	1.X.59–30.IX.60	44,772
Study of Anemia Problems in Central America and Panama with Collateral Information on the Levels of Serum Vitamin A, Carotene and Cholesterol.	WHO		
Relation of Atherosclerosis to Environmental Factors.	NIH	1.I.60–31.XII.60	32,973
Relation of Atherosclerosis to Environmental Factors.	NIH		
Amino Acid Supplementation Studies	E. I. du Pont de Nemours & Co.	1.IX.56–31.XII.60	14,500
Effectiveness of INCAP Vegetable Mixture.	National Research Council	15.V.57–15.V.60	10,192
Chemical, Microbiological and Biological Evaluation of Vegetable Protein Mixtures for Human Feeding, Based on Peanut Flour.	Westreco, Inc	1960	10,000
Research on the Relation Between Agronomic Characteristics and the Nutritive Value of Leguminous Seeds.	Centro Experimental Agricola.	1960	1,000
Amino Acid Supplementation of Rolled Oats.	The Quaker Oats Co	1.VI.60–31.XII.60	12,000
Biochemical Research in Agricultural Crops and Industrial By-Products.	Rockefeller Foundation, Inc	One Year	
Total Special Research Program			315,153

NUTRITION SURVEY OF INDIA

Senator HUMPHREY. The relationship between nutrition and health in a great country is illustrated in the text of a recent talk by Wendell Griffith, of the University of California, based on a year's study of problems in India. This talk, as presented at a meeting of the Food and Nutrition Board, National Academy of Sciences, National Research Council, April 1, 1960, follows. It helps our review get down to cases as regards the application of research knowledge in a technical assistance program.

OPPORTUNITY IN INDIA

An address by Wendell H. Griffith [19]

Preliminary plans for a UNICEF Expanded Nutrition Program in India were developed in 1958 on the basis of recommendations by Dr. C. G. King and Dr. J. M. Hundley following their respective visits and consultations in India. A tentative recommendation for a project in the State of Orissa, prepared by the UNICEF Area Office in New Delhi and modified according to the recommendations of an FAO Evaluation Team, was approved by UNICEF, FAO, the Government of the State of Orissa and the Government of India early in 1959. My own assignment as an FAO Nutrition Officer was to give advisory assistance on the preparation, approval and implementation of a plan of operations for the UNICEF-supported project in Orissa, to encourage the development of similar projects in other States, to evaluate the project at Mysore for the production of so-called multi-purpose food, and to study methods of education in nutrition and other measures designed fo improve nutrition at the village level.

The effort of UNICEF to improve maternal and child nutrition in India by means of projects such as the Orissa project depends on the increased production of protective foods by villagers who are aided in the development and maintenance of poultry units and of vegetable and fruit gardens and in the utilization of village tanks (ponds) as a source of fish. Inherent in the plan is the support of nutrition education that results in increased consumption of protective foods, particularly by the more vulnerable groups in the population. In addition, special training courses are arranged for medical officers, home scientists, agriculture extension workers and large numbers of young men and women who actually carry out the necessary instruction and demonstrations at the village level. Significant is the fact that in such a project the State and Central Governments make financial commitments 2 to 3 times greater than the UNICEF commitment.

In carrying out my assignment it was possible, with the assistance of the FAO and UNICEF offices in New Delhi, to visit the principal centers in India at which nutrition studies are in progress and to confer with the investigators in these centers, to discuss mutual problems with representatives of external agencies having assistance programs in India, and to consult with representatives of the Central and State Governments. The friendly interest and aid, freely given by these individuals, are gratefully acknowledged.

It was possible also on frequent occasions to visit the rural areas of India and to talk with Block Development Officers and with representatives of their staffs, with Medical Officers and with others in Primary Health Centers, with members of Gram Panchyats and of Mahila Samiti, with Village Level Workers, and, through interpreters whenever necessary, with village school teachers and with village men, women and children. It is pertinent to note that contact with children in village schools always gave rise to an increased sense of optimism for India's future, once the opportunities for secondary and higher education become more freely available. It is a pleasure to record the hospitable reception which was uniformly received in the villages of India.

My further remarks this evening will not deal with the UNICEF program or with personal experiences or anecdotes about life in India. Rather, I propose to discuss the nature of the food and nutrition problem in that country and the responsibility and the opportunity of the Government of India to help itself in overcoming the disabling millstone of both chronic and acute malnutrition in its population. I must begin by warning you that almost any statement a westerner makes about such a vast and complex nation runs the hazard of being a misinterpretation or a serious oversimplification. This is inevitable because of the enormous extremes that exist in the health, literacy, economic status and social position of large segments of the population. Having made this precautionary statement, I may say that the points to be discussed served as the basis of my report and recommendations to the Government of India through the Food and Agriculture Organization.

Any appreciative observer whose training and experience have directed his thoughts to man's ever-continuing struggle to nourish himself and his family on the fruits of the earth cannot fail to be impressed with India's determination

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[19] FAO Nutrition Adviser to UNICEF during a sabbatical leave of absence from the University of California at Los Angeles, February 1959–February 1960.

to overcome the biologic and socioeconomic obstacles that deny healthier and more prosperous lives to her 400 millions. The implementation of this decision has brought the Government of India squarely against the problems of population control and of increased agricultural productivity.

There is advocacy of family planning and the effort along this line is a major item in the Five-Year Plans. Whether or not the increase in population can be regulated sufficiently to permit food production to keep ahead of the demand for food is a critical question indeed. One may reasonably expect that the successful planning for families of restricted size will require the reinforcement of the present educational program by additional and new types of fertility control.

The Five-Year Plans definitely encourage the rehabilitation and conservation of arable land, the use of improved seeds, fertilizers, pesticides and more efficient methods of cultivation, the greatly increased use of available irrigation water for multiple cropping and other methods of increasing total yields of crops. Up to the present the results have been less than was anticipated and this disappointing result may well be due to the inadequacy of the measures designed to give the farmer an incentive for production beyond his own meager needs.

A wider distribution of land ownership by drastic limitations on land holdings is a governmental policy but there is little other indication of a forcing of increased production by governmental edict, as in the communistic countries. It is the Prime Minister Nehru's fond but apparently vain hope that the desired increase in agricultural activity will result from the transmission of his own socialistic idealism to the farming community. A more likely solution is the institution and demonstration of marketing procedures that will persuade the farmer that increased production does, in fact, mean a better income and the concomitant improvement of the health and general well-being of his family. Confidence is expressed that the right way to stimulate food production will be found and adopted and that it will be successful. After all, enormous changes and improvements have occurred in the 13 years that India has had its independence. Despite disappointments through failure to attain hoped-for objectives, India's acceptance of the challenge to match the output of her soil against the food demands of her growing population is an exciting and heartening event which merits sympathetic consideration and support.

The shortage of food is twofold and consists, in part, of an insufficiency of total foodstuffs and, in part, of an insufficiency of specific kinds of food, the so-called protective foods. The Government of India has included a food policy as a part of a more inclusive agricultural policy in the First and Second Five-Year Plans. Because the food policy is concerned primarily with the acceleration of the production of the food grains it is not a nutrition policy. It has as its goal a full stomach rather than the satisfaction of appetite *plus* the provision of the specific nutrients that are indispensable for the survival and growth of children and for physical well-being in men and women. The prevalence of protein malnutrition in infants and of mineral and vitamin deficiencies in older children and adults is proof of the inadequacy of the cereal diet as used in India and is evidence of the failure of many families to supplement the diet of grains with necessary quantities of other essential foods, particularly those rich in protein, calcium, vitamin A and riboflavin. Required are additional supplies of milk and dairy products, pulses such as the grams, "flour" from oil seeds such as peanut and sesame, leafy green and yellow vegetables, and citrus and other fruits for vegetarians and these plus eggs, poultry, fish and meats for nonvegetarians.

It is pertinent to inquire at this point regarding the extent of the occurrence of starvation in India. How serious is the need of additional sources of calories? With due regard for the semantics involved in the use of the terms "undernourished" and "starving" it is correct to say that the idea that starvation is common is wholly erroneous. The majority of the adult Indian population does not lack a daily supply of food grains. True, India is not self-sufficient in this respect and imports are indispensable. Most serious, however, is the narrow factor of safety between supplies and needs. Failure to maintain production in proportion to population, the occurrence of crop failures or the cessation of importation of grains would be immediately calamitous. It is of the greatest importance that this distinction between the existing and potential requirement of increased calories and the additional need of protective foods be clearly understood if aid programs are to be planned and administered effectively. Provision of food grains to the starving is quite different from assistance in the development of economic incentives that will lead to the growing of a variety of

protective foodstuffs through multiple cropping where irrigation is feasible and of incentives that will result in the ingestion of these foods. A prerequisite for both goals is an understanding of the relation of food to health and to physical well-being.

Is there any alternative in India to planned increases in the production and consumption of essential foodstuffs? There is another alternative and it is one that deserves consideration under special circumstances. Modern nutritional science and food technology have made possible the preparation of high-protein, processed products and the enrichment of common foods, such as the grain products, with added minerals and vitamins. Such products are highly desirable for certain purposes, such as the nourishment of the sick and the feeding of expectant and nursing mothers, infants and small children. In some instances, such as the preparation and distribution of table salt fortified with iodine, this alternative may well be the measure of choice. But it is clear that costs of manufacture, distribution and promotion preclude the wide use of these products in the dietaries of the general population in India at the present time unless heavily subsidized by the Government. The choice between the provision of protective foodstuffs as agricultural products and the provision of substitutes in the form of commercially-enriched, processed foods represents a serious decision that requires the considered judgment of experts in the food and nutrition sciences, in agricultural economics and in other relevant fields concerned with the public welfare.

Fortunately, dependence on agricultural products as the source of essential foodstuffs does not necessitate drastic changes in food habits in India. New and exotic foods are not required, rather it is the production and consumption of familiar foodstuffs in appreciably larger amounts. To achieve the latter may prove difficult, admittedly. Food habits are formidable, even those having no basis in religious or other traditional beliefs, and the consumer in India, as elsewhere, normally must have a strong motivation if he is to accept changes in his accustomed diet. Confidence is expressed that progress along this line in India will result from carefully planned and realistically practical programs concerned with the nutritive value of foods, with the beneficial influence of good diet on both physical health and economic productivity, and with methods of ensuring that adequate diets are consumed. Inherent in any such program is its relation to agricultural production, to conservation of food, to the socio-economic aspects of family life and to general health education.

The two goals of increased production of protective foods to serve as supplements to the diet of grains and of education of the consumer to bring about the incorporation of these foods in the diet in larger amounts are believed attainable in India. Reaching these objectives constitutes a challenge to India's human and material resources which is neither greater nor less than the challenges faced many times in the formulation of the First and Second Five-Year Plans. The time is particularly opportune for the formulation and implementation of a national nutrition policy in India *because* the undernourished children have a compelling need for more food and more nutritious food, *because leaders* in government and in the food and nutrition sciences have become increasingly aware of their joint responsibilities for the improvement of food production and food consumption practices, *and because* the Community Development Program has engendered a spirit of change and of optimism which can be a powerful ally in overcoming man's natural resistance to alterations in a pattern of living that has become habitual through many generations.

What should, then, be the objectives of a sound nutrition policy for India? Tonnage goals must be established for milk, protein-rich pulses, vegetables and fruit as well as for the food grains. To make this possible there must be reasonable forecasts of the size of the future population and of its distribution into groups according to age, child-bearing and physical work categories. From these data estimates of the total needs of each of the indispensable nutrients can be determined. Comparison of these amounts with the availability of the nutrients in the food grains will indicate the type of protective foodstuffs whose production in larger quantities is necessary.

Prudent and realistic phasing of the implementation of changes in the present food production policy may require the temporary provision of nutrients that are in critically short supply in the form of enriched foods or of food supplements. Instructional programs on a national scale will be necessary to ensure the proper use of the protective foods. Finally, there must be support of training teachers and of investigators in the food and nutrition sciences if the nation

is to take full advantage of the tremendous potentialities of better nutrition for the improvement of health and of economic productivity.

The formulation and adoption of a national nutrition policy is not an overly ambitious project at the present time. The basis of such a policy already exists in the published recommendations of the Nutrition Advisory Committee of the Indian Council on Medical Research. India has in its own nutrition scientists, food technologists and agricultural experts the essential knowledge, competence and enthusiasm that can assist materially in the Government's bringing to reality nutritional goals of inestimable value for India's future welfare.

A realistic appraisal of the status of the majority of the population with respect to economic level, literacy and health leads to the immediate rejection of the idea that the gains which should accrue from an effective national nutrition policy can possibly result from the uncoordinated efforts of individuals. Leadership by the Government appears indispensable and the multiple nature of the problem requires that its solution must result from an integrated endeavor. Involved are agriculture, animal husbandry, the health services, education, home science, in fact all of the sciences and services that are the basis of the Community Development Program. Furthermore, significant improvement of nutrition must be a responsibility shared also by industry, educational institutions and research organizations as well as by private citizens. Guidance and leadership for such a vast collaborative program could well be vested in an Inter-Ministry Group in the Central and in each State Government. Such groups would be responsible for policies, for integration of operations and for the allocation of funds required for the development of plans for the phased improvement of the quantity and quality of essential foodstuffs, for the identification and nutritional rehabilitation of malnourished segments of the population, for the training of teachers and investigators in nutritional science and for the initation of large scale programs in nutrition education.

It is the observation that in recent months there has been no agency in the Central Government that has been concerned specifically with broad nutrition policies and with plans for implementation of the policies. A policy-forming Inter-Ministry Group requires an operational arm and it is suggested that a Division of Nutrition in one of the Ministries be assigned this responsbility. The Division would require budgetary funds and qualfied personnel to enable it to obtain reliable data on the tonnage requirements of essential foodstuffs for the expanding population, to determine the modifications of existing agricultural practices and goals necessary to make possible the production of these tonnage requirements, to advise on methods of ensuring the consumption of essential foodstuffs and to prepare appropriate recommendations on these matters for the Inter-Ministry Group.

Arguments may be advanced for and against the assignment of special responsibility to a Division of Nutrition located in the Ministry of Food and Agriculture or in the Ministry of Health. This is a reflection of the many facets of the problem and an indication of the great need of an integrated approach to the solution. Although the importance of agricultural production that is based on a broad nutritional plan or policy points impressively to the Department of Food in the Ministry of Food and Agriculture as the key organization to supervise a national nutrition program, it is obvious that an effective Nutrition Division must work in collaboration with representatives of several Ministries. For example, the identification of malnourished segments of the population and the nutritional rehabilitation of these segments must be a primary obligation of the Ministry of Health. Similarly, the Ministry of Education would be expected to share responsibility for programs of education in foods and nutrition. The Inter-Ministry Group by its very nature would be in a position to facilitate the cooperative activities involved in these and in other comparable situations.

Because the sciences of nutrition, of food production and of food technology are dynamic and are constantly being extended by research, the Inter-Ministry Group of the Government should have the consultative support of an Advisory Board composed of India's foremost scientists from colleges and universities, medical schools, industrial food laboratories and research institutes. Included in such a group should be representative agriculturists, agricultural economists, biochemists, food technologists, home scientists and physicians who are actively concerned with problems of food production, nutrition and public health. The primary function of the Advisory Board would be to serve as experts for the Inter-Ministry Group and for the Division of Nutrition and to ensure that the nutrition policies and programs are in agreement with current advances in fundamental research and in applied techniques.

The present period is one of remarkable change in India because the Community Development Program, as outlined in the Five-Year Plans, is opening up new horizons that give promise of better lives for India's millions. It is inevitable that the outlook and the position of each individual will be different in the future—and there will be improvement if the growing sense of personal responsibility which is now being so carefully nurtured can be brought to maturity.

The time and conditions are not only favorable for the Government of India to make decisions of marked significance for the improvement of nutrition, but these same considerations argue also for greatly extended FAO and UNICEF programs. Although its program is large and diverse, and although it is sharing in the UNICEF Expanded Nutrition projects, FAO is only beginning to make its expected contribution in the field of nutrition in India. Similarly, although UNICEF support of milk production and of maternal and child nutrition represents a highly important accomplishment, the majority of mothers and children in India has not yet been reached by these programs.

Despite the complexity and enormity of the problems of illiteracy and of low economic status, FAO and UNICEF should fix their sights on targets that demonstrate unequivocally their confidence in the intentions of the Government of India to improve the nutritional health of India's millions. The eyes of the world are on this vast country where nutrition history, as well as social, economic and medical history, are in the making. Truly, it is a strategic time for these United Nations organizations to make available to an unprecedented extent supplies and expert knowledge on the ways and means of increasing the agricultural production and the consumption of the grains and of the protective foodstuffs, without which there can be no freedom from hunger.

LETTER FROM THE ROWETT RESEARCH INSTITUTE

Senator HUMPHREY. Illustrative of a wide array of private activities in the nutrition field is a report from Dr. D. P. Cuthbertson, Director of the Rowett Research Institute in England. Dr. Cuthbertson is, it should be noted, chairman of IUNS, the International Union of Nutritional Sciences.

THE ROWETT RESEARCH INSTITUTE,
Bucksburn, Aberdeenshire, 18th June, 1959.

DEAR MR. HUMPHREY: I have given your letter of May 18th, 1959, concerning your International Health Study considerable thought. * * *

The world's most urgent nutritional need is for an overall increase in food production and, within this increase, a disproportionately high fraction should be of protein-rich foods. Basically there is need for an improved general level of education and for advisory services. Technical assistance in the development of underdeveloped countries should, we believe, be through the United Nations' agencies and less through the International Cooperation Administration which in some way or other comes under your State Department. It might be of value to consider whether it might not be more effective for the level of ICA technical assistance to be made through the United Nations Organisations as they have much experience in underdeveloped countries.

I also enclose a brief summary of one of my colleagues' report to the Governments of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama on Food and Nutrition Policy.

I trust that this short note may be useful.

Yours sincerely,

D. P. CUTHBERTSON, *Director.*

REPORT TO THE GOVERNMENTS OF COSTA RICA, EL SALVADOR, GUATEMALA, HONDURAS, NICARAGUA AND PANAMA ON FOOD AND NUTRITION POLICY

(Summary)

From August 1956 to August 1957, Dr. J. Duckworth was seconded to the Food and Agricultural Organization of United Nations (FAO) and the United Nations Children's Fund (UNICEF) for an assignment to assist the Governments of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama to frame national food and nutrition policies and to suggest means of integrating appropriate elements of these national policies to form a regional policy.

As a colleague in this work he was joined by Srita. Elene Musmanno of the National Institute of Nutrition of Argentina. It was already known that dietary deficiencies were wide-spread in the human population of the area, and that the main deficiency was of protein, especially animal protein, in the diets of young children and of pregnant and nursing mothers. It was also known that the growth of the population was rapid.

Statistics were collected on food production in each country, and on the trade in food (other than coffee and bananas) among the countries of Central America and between individual countries and places outside Central America. From this information it was possible to show that between 6% and 10% of the people living in Central America were dependent on the outside world for their food supplies, and that domestic production of higher quality foods (animal products, fruit, and vegetables) was far short of the requirements of the remainder of the population, even if these were set at a bare minimum. From other statistics collected, on birth and mortality rates, it was possible to estimate the rate of population growth during the next 25 years, and to make a first approximate estimate of how present production must be increased, if current deficits were to be corrected, and how future production must be increased to provide a minimum adequate diet for the growing population of the future. In essence, what is required is a doubling of food supplies within the next 25 years and, within this, an alteration in the pattern of food supplies so that relatively more animal products, fruit and vegetables are eaten and relatively less cereals, especially maize.

Two main lines of attack on the problem were recommended. The first of these was an expansion of the livestock industry, particularly of cattle and sheep production with feeding based on grass, and not envisaging high productivity involving imported stock and extensive use of concentrate feeding stuffs, at least in early stages. Emphasis was placed on the importance of using cottonseed and cottonseed meal, currently exported, as a source of protein during adverse times of the year. Emphasis was also placed on the need for more milk plants capable of producing pasteurized, sterilized and dried milk, and milk products, and on the need for modern slaughterhouses capable of efficient cold storage and cutting of carcasses, and of producing processed meat products. In this last connection the use of plant protein concentrates as "extenders" in producing low-priced meat products was recommended. Particular emphasis was placed on the need for Government assistance, including, on occasion, some forms of subsidy, for such new developments to have chances of success.

The second line of attack recommended was to change the pattern of production in peasant agriculture, which at present is restricted largely to producing maize and beans. The primary purpose is to change the diets of peasant families, which are currently the worst fed social group, and to provide an excess of animal products, fruit, and vegetables for sale in urban areas, where the dietary deficiencies are less severe than in rural areas, but nevertheless are serious. To this end it was recommended that training in the theoretical and practical essentials of this new type of farming, together with the teaching of good nutritional practices, should be introduced into the curriculum of rural schools. This year a start has been made to implement this proposal in the Republic of Guatemala, and it is intended to bring about 1,000 schools into the scheme, with the assistance of United Nations agencies, during the next five years.

To facilitate production and trade in food on a regional basis, and to reduce the expenditure of foreign exchange on purchasing outside the area food that could well be produced in Central America, it was recommended that it should be arranged for these matters to fall within the terms of reference of the regional Conference of Ministers of Economia (CAIS) or of the regional Conference of Ministers of Agriculture (OIRSA).

EDUCATION BY NATIONAL DAIRY COUNCIL

Senator HUMPHREY. The item which follows is a message from G. P. Whitlock, Director of Health Education, National Dairy Council, Chicago, Ill. Mr. Whitlock was among the first to respond to the subcommittee's invitation for comments on international collaboration in nutrition research and education.

NATIONAL DAIRY COUNCIL,
Chicago, Ill., September 16, 1958.

DEAR SENATOR HUMPHREY: We appreciate your invitation to cooperate in the survey of international health programs conducted by your subcommittee. The tentative outline of the work program you forwarded with your letter of September 10 was helpful in understanding the responsibility of your subcommittee in assessing what private organizations are currently doing in the international medical research and service fields.

The Nutrition Research Program of National Dairy Council is interpreted to be domestic rather than international, within the concept of Senate Resolution 347, 85th Congress. A statement of the operations of the National Dairy Council Nutrition Research Program and the objectives of the overall National Dairy Council program is enclosed to document this conclusion.

Likewise most of the services offered by National Dairy Council are domestic rather than international. Yet, two exceptions of possible interest to your subcommittee can be cited:

National Dairy Council is called upon infrequently to explain its program of nutrition research, health education and public relations to certain visitors from foreign countries. Referrals to us are made primarily by the Foreign Training Division of the Foreign Agriculture Service, in conjunction with the International Cooperation Administration. Occasionally, local referrals are made by the Milk Market Administrator or by private organizations or individuals. In addition to conveying information about the National Dairy Council Nutrition Research Program mentioned above, we discuss the National Dairy Council Health Education Program and Public Relations Program. * * *

In addition to that cooperation, the Board of Directors of National Dairy Council has expressed its desire to further cooperate with health education leaders around the world in the interest of international relations and contributing to human welfare. Approval is given to extending distribution of National Dairy Council health education materials in foreign countries by authorizing purchase and/or granting reproduction privileges within the policy and procedures described in a Statement of Policy governing Distribution of National Dairy Council Health Education Materials in Foreign Countries (exclusive of United States Possessions).

If you should desire more detailed description of the overall program of National Dairy Council, or specific information about its Nutrition Research, Health Education and Public Relations Programs, we will be happy to cooperate with you further.

Sincerely,

G. P. WHITLOCK, *Director of Health Education.*

NATIONAL DAIRY COUNCIL PROGRAM

NUTRITION RESEARCH

I. *Objective of overall National Dairy Council program.*—To promote optimum health and human welfare through adequate use of milk and its products in accord with scientific recommendations, and thus contribute to a more secure American agriculture and national well-being.

II. *Operations of National Dairy Council nutrition research program.*—The National Dairy Council Nutrition Research Program assists in achieving the overall National Dairy Council objective by:

A. Supporting nutrition research studies through grants-in-aid to competent investigators working in adequately equipped laboratories of top-ranking colleges, universities, research foundations, hospitals, and clinics to obtain:

1. New facts about nutrients present in milk and other dairy foods which will enhance their value to the consumer;

2. Accurate facts about milk and other dairy foods and their proper place in the diet for use in combating unjustified adverse claims against these foods; and

3. Fundamental information about human needs which might be used as a basis for development of new dairy products.

B. Surveying research needs of the dairy industry through study of research under way in laboratories with support by other agencies and groups; and study of scientific and popular literature; and through formal and informal conferences with scientists and industry.

C. Evaluating research proposals submitted to National Dairy Council and other dairy organizations for support.

D. Developing research studies with investigators so that special needs of the industry for information might be met.

E. Negotiating with investigators and industry committees to establish and continue support of needed research.

F. Interpreting interim reports of research findings to industry committees.

G. Interpreting final reports to Dairy Council staffs and professional people for use in educational and health programs; and to industry for use in promotional programs.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
FOOD AND DRUG ADMINISTRATION,
Washington 25, D.C., July 23, 1959.

DEAR SIR: Your letter of July 13 with the attached memorandum on the International Health Study has been received, which asks me to contribute specific information.

Since your letter was addressed to me in a dual capacity, I shall asume that it is appropriate to make suggestions arising from my work both as a former President of the American Institute of Nutrition and in my present position as an official of the U.S. Food and Drug Administration.

No doubt many of the comments on the attached pages will overlap in some degree the information given by other scientists, but that is perhaps inevitable.

Sincerely yours,

PAUL L. DAY, Ph.D.,
Scientific Director.

MEMORANDUM

To: International Health Study.
From: Paul L. Day, Ph. D.
Scientific Director, Food & Drug Administration
Subject: Specific illustrations of how American scientific groups have made contributions to the international advancement of biomedical science.

Federation of American Societies for Experimental Biology

During the spring and summer of 1953 the federation board, through the work of an inter-society committee headed by Dr. E. M. Landis, and on which committee I served, conducted a mail appeal to educational institutions, foundations, governmental agencies, individuals, and industrial concerns in the pharmaceutical field, for funds to finance travel grants to European scientists to attend the International Physiological Congress held in Canada in September 1953. A total amount in excess of $200,000 was obtained; the details and exact amount can be obtained from Dr. K. K. Chen, Lilly Research Laboratories, Indianapolis, Indiana.

Food and Nutrition Board, National Research Council—National Academy of Sciences

The Food and Nutrition Board, like its parent agency, is a quasi-Governmental organization. It is composed of about 25 eminent scientists from universities, governmental laboratories, foundations, and industry. Although primarily concerned with the nutritional health of the American people, it has sponsored a number of studies in other nations and continents. Also, the policy statements and recommendations which it has published are often applicable to other peoples. Some of its studies and reports have no doubt been mentioned to you in other ways, but the part taken by the Food and Nutrition Board is significant.

1. *International Rice Enrichment Program.*—This program has been "fathered" by Dr. R. R. Williams, the co-isolater of vitamin B_1, who has been president of the Williams-Waterman Fund of the Research Corporation. The Cereal Committee of the Food and Nutrition Board has given advice and support to the program. Through grants-in-aid from the fund, nutrition projects in rice enrichment have been carried out in the Philippines, Formosa, Japan, and among other rice-eating peoples. Doctor Williams personally made many trips to the Orient to supervise these programs, which were supported in part by the chemical and pharmaceutical industry of the United States.

2. *Committee on Protein Malnutrition.*—This is an example of a pilot study of the Food and Nutrition Board regarding a disease endemic in underprivileged countries but not found in the United States. Among peoples subsisting solely upon vegetable sources of protein, a large percentage of the infants and children develop an acute and often fatal protein-deficiency disease locally called "kwashiorkor." The studies of this committee have been supported by grants of about a half million dollars from an American foundation. Projects have been carried out in Central America, the Caribbean islands, and in Africa. The studies have attempted to determine which native vegetables will supply adequate high-quality protein to prevent the malady. Similar work has been done at the Institute of Nutrition of Central America and Panama in its laboratories at Guatemala City. The director of INCAP, Dr. Nevin Scrimshaw, is a United States citizen. His work at INCAP has been generously supported by American foundations and by the chemical and pharmaceutical industry of the United States.

3. *Cooperation with Health and Nutrition Agencies of Foreign Nations.*—Although the Food and Nutrition Board is essentially a United States organization, it routinely invites visiting scientists in the nutrition and health fields to attend its semiannual meetings, and has specified liaison representatives from a number of international and foreign national agencies. At one time the director of the Canadian official nutrition laboratory was a regular member of the board, and he is now invited to attend the meetings whenever his travel plans permit. A Washington-based FAO nutritionist is a liaison member of the board and often takes part in the discussions.

Interdepartmental Committee on Nutrition for Defense

This was established several years under the directorship of the late Dr. Harold Sandstead as a joint project of the various defense departments and related administration agencies. Its express function is to study the nutritional health of American military forces on foreign assignment, the health of military personnel of our allies, and, incidentally, the nutritional status of civilian groups among our allies. The work of the committee has been effected through teams of scientists drawn from other governmental agencies, universities, and industry. Several of such team reports have been made to meetings of the Food and Nutrition Board.

A recent study of civilian groups in Chile and other South American groups was made by a team which included a scientist from the Food and Drug Administration—Dr. Jerome A. Uram—who was granted leave from his duties for the assignment.

Research of the U.S. Food and Drug Administration

Although the Food and Drug Administration is sometimes viewed by the administration and the Congress as essentially a regulatory agency, in its regulation-making and enforcing actions it requires a large body of basic scientific data. These facts often can be obtained only by research in our own laboratories. Especially in view of the responsibilities placed on FDA by the food additive legislation, we have an enormous need for precise analytical methods and for knowledge of the digestion, metabolism, and routes of excretion of these incidental or intentional additives in foods and in drugs. The reports of such research are usually published in scientific journals obtainable not only in the United States but throughout the world. Canada and the European countries are likewise struggling with the food additive problem but they have evidently not progressed as far as we have, either with regard to legislation or scientific knowledge.

Several international Conferences have been recently held on the food additive problem, and these Conferences have had official and quasi-official representatives from the Food and Drug Administration.

The American Institute of Nutrition

The institute is sponsoring the Sixth International Congress of Nutrition which will be held in Washington, D.C., in September 1960. A committee of the institute is now seeking contributions to a fund from which travel grants will be made to European scientists to attend the Congress. It is expected that a total amount approximating a half million dollars will be available.

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E. Research on accidents

Senator HUMPHREY. When the average individual thinks of health, he may be inclined to think of combating disease. He may not be aware that there are certain other public health problems, such as safety and pollution, which should very much concern him. The fact is that accidents take a fearful toll within the United States and, just as pollution, are exceedingly costly for well-being.

Accidents have been termed an "epidemic" which takes more lives in the age group from 1 to 35 than any other cause. Public health specialists have stressed the need to find out more about this "epidemic"—about the relationship between accidents and such factors as age, marital status, sex, state of health, geography, season, time of day, and other conditions.

Of course, I am referring here, not simply to automobile accidents, but to injuries and deaths resulting from falls, fire, explosion, drowning, poisoning, and other eventualities.

NINETY-ONE THOUSAND ACCIDENTAL DEATHS IN 1958

In 1958, accidents took the lives of 91,000 Americans. Two-fifths of all accidents occurred in motor vehicle smashups and killings—37,500 lives in all. Even in the home, 27,000 accidents occurred. In employment, 13,000 deaths took place because of mishaps. And these statistics do not begin to tell the story of the millions injured and of those who suffered indirectly.

A 10-percent sample of death certificates filed in all of the States indicates that in 1959 the total number of deaths by accident again was about 90,000 and the breakdown into home and motor vehicle accidents remained about the same as in 1958.

INTERNATIONAL COOPERATION IN RESEARCH

Accidents are a universal problem.

Fortunately, the U.S. Public Health Service has made an important beginning in international cooperation in accident prevention. But, relatively speaking, we have hardly devoted a fraction of the time and resources to this problem—either at home or abroad—as has been devoted to other problems of health which take a comparatively far smaller toll.

I, for one, have noted with admiration the very significant contributions to accident prevention which have been made by the Subcommittee on Health and Safety of the House Committee on Interstate and Foreign Commerce. Here I refer particularly to efforts to cut down the terrible toll of automobile accidents.

I hope that we of the Congress and officials of the executive branch will do still more in the years to come. That includes doing more in the field of accident research.

REDUCING JOB ACCIDENTS

A major component of such research is a study of on-the-job accidents.

For many years, I have personally been interested in strengthening safety in American industry and on the farm. As more and more

mechanization occurs in industry and agriculture, more and more adequate measures are essential for the safety of the working force.

A new industry such as atomic energy requires particular care, not simply in the actual production of peaceful power, but also in such fields as the disposal of nuclear waste. In the latter instance, we are dealing not only with the problem of accident research but pollution research, as well.

FIRST NUCLEAR ACCIDENT IN EUROPE

While I was in Paris in November 1958, I visited the Curie Hospital. At that time, it was treating victims of the first nuclear accident which had occurred in Europe. In this instance, it had happened in Yugoslavia. Fortunately, except for one patient, the treatment was a success. The accident itself, however, provided a grim indication of what could happen in the years to come and underlined the urgency for great care.

Another of the institutions which I visited while abroad was the Institute for Occupational Health in Helsinki, Finland. (See pt. 1, p. 275.)

LETTERS AND MEMORANDA ON ACCIDENT RESEARCH

The professional field of occupational safety has rapidly developed in recent years. In 1960, the United States was host in New York to the 13th International Congress of Occupational Health, a professional meeting which has made very important contributions.

Indicative of both general and specific problems in the field are several letters and memoranda the subcommittee has received and which are reprinted herein. One of the memoranda lists some of the individuals in foreign countries who have been active in various types of accident research.

Here in the United States, the National Safety Council has been the leading source concerned with nationwide safety education and accident prevention. It is to be congratulated for its notable services to American safety.

A number of Federal agencies have also been active, particularly the Public Health Service.

ACTIVITIES OF DIVISION OF ACCIDENT PREVENTION AND OTHER AGENCIES

The Division of Accident Prevention of the Public Health Service is, beyond question, the most knowledgeable single center on this problem. The division has been very helpful in responding to inquiries from our subcommittee. Information which we have assembled on Public Health Service activity is featured in the pages which follow.

As regards industrial safety, the U.S. Department of Labor naturally has a special interest. The U.S. Children's Bureau has been helpful toward reducing accidents among children.

Internationally, the World Health Organization has focused attention on the problem of preventing childhood accidents.

Another item which follows is a letter from G. De Rees who served as Secretary General of the Second World Congress on the Prevention of Occupational Accidents. (His statement in this instance

concerns activity on accident prevention in Belgium.) Two brief memos on the first and second such world congresses also appear herein and an outline of activities on accident research in foreign countries.

AUGUST, 1959.

U.S. PUBLIC HEALTH SERVICE—DIVISION OF SPECIAL HEALTH SERVICES*

MEMORANDUM ON INTERNATIONAL COOPERATION IN ACCIDENT PREVENTION

The staff of the Accident Prevention Branch in the U.S. Public Health Service have collaborated with individuals and organizations in other countries on various accident prevention activities. Following are some specific examples:

Dr. James L. Goddard, Chief, Accident Prevention Branch, served as a consultant to the Pan American Sanitary Bureau on accident prevention. He prepared a report for technical discussion at the 1958 Pan American Health Conference following his visit to various South and Central American countries in 1958.

Dr. Charles R. Hayman during 1959 visited Venezuela to provide technical advice on the establishment of an accident prevention program including research.

This program has been visited by and has provided consultation to people from the following countries on accident prevention: Italy, Australia, Mexico, Canada, Sweden, and several South American countries.

Staff have corresponded with several countries on their research activities and to obtain literature and other data on accident prevention.

The National Clearinghouse for Poison Control Centers of the Public Health Service Accident Prevention Branch collaborated with individuals and organizations in various countries with respect to research, diagnosis, treatment, and control of accidental poisoning.

In Sweden, a centralized poison information center has been organized. References and methods of operation were suggested to Dr. Berfenstam, Assistant Professor of Social Pediatrics, University of Uppsala, and his group to be used in the operation of this center. The Clearinghouse Poison Index was sent to the center and it has been learned that the index is being used a good deal. The center is on the clearinghouse mailing list for various publications concerning poisoning.

Monsieur G. Thomas of the Institut d'Hygiene et d'Epidemiologie, Brussels, Belgium, has been receiving much information on diagnosis and treatment from the clearinghouse.

The clearinghouse has worked closely with the Food and Drug Directorate of Canada. That office is coordinating poison control activities in Canada. The clearinghouse has suggested various research approaches which might be used to explore the problem of accidental poisoning in Canada. Reprints of selected articles from this program and sample copies of its poison report forms have been sent to the Food and Drug Directorate. That office also has a set of the U.S. poison index for resource material and receives the periodic communications concerning all aspects of poisoning from the clearinghouse.

The clearinghouse has been in contact with Dr. Per Lous of Denmark concerning various aspects of the treatment of barbiturate and aspirin poisoning. It has made him aware of the latest developments in the treatment of aspirin poisoning in this country.

A set of the poison index has been sent to the Deputy Director-General of the New Zealand Department of Health. This set and information concerning poison control center operations in this country, which was also sent to New Zealand by the clearinghouse, are to be the basis for organizing a poison control center system in that country.

The clearinghouse has exchanged ideas concerning various clinical aspects of lead and aspirin poisoning with Dr. Seymour Heymann, Head of the Department of Pediatrics of the Transvaal Memorial Hospital for Children in Johannesburg, South Africa.

Supplement as of February 12, 1960

Professional personnel from England and Canada are participating in a Public Health Service Conference on Alcohol and Traffic Safety.

Representatives from the Canadian health departments have visited this program to discuss U.S. accident prevention activities. An agreement for the exchange of publications and educational materials was made.

*Subsequently reconstituted as Division of Accident Prevention.

COLLABORATIVE EFFORTS

Following are some additional examples of collaborative efforts outside the Public Health Service.

There have been two International Conferences on Alcohol and Traffic Safety: one in 1951 at Stockholm and one in 1956 in Canada.

An International Conference on Public Health with special reference to accident prevention is to be held in 1961 in Rome.

The Children's Bureau collects international data about ongoing research generally, and accident prevention research is included in their listing.

At least two Fulbright awards have been made in the field of safety. One of them was to an Italian scientist to visit this country.

MEMORANDUM ON WHAT THE PUBLIC HEALTH SERVICE MIGHT DO TO ADVANCE COLLABORATIVE RESEARCH EFFORTS

1. The Service could, if resources were available, establish an international mechanism such as a clearinghouse for the exchange of information on the planning and conduct of research and for the dissemination of information on research findings and program experience which could be incorporated into control programs of any country. For example, toxicological data concerning poisons or potential poisons throughout the world could be made available. A registry of information on the locations and availability of various antidotes could be set up.

2. Either through the mechanism suggested above or through some other means the following studies of international importance could be promoted:

(*a*) Relationship between physical conditions and accidental injuries—England or wherever medical history is likely to be complete.

(*b*) Study of injury due to falls in old people—especially in Scandinavia where the death rate is extremely high.

(*c*) Study of medical handling of fracture cases in several countries—Canada, United States, England, and Scandinavia.

(*d*) Study of methods of emergency care (first aid) and transportation of injury patients in several countries and their effect on survival.

(*e*) Study of accidental deaths in various countries to children under one year of age with emphasis on methods of coding and their influence on the death rates.

(*f*) Study of accident pattern to school children in various countries and its relationship to geography, technical development, customs, and habits.

(*g*) Study of design of homes for the aged and its effect on the accident pattern of the elderly. Scandinavian countries would be ideal places for such a study.

(*h*) Study of physical standards for licensing drivers of automobiles.

(*i*) Study of poisoning in young children in several countries to find common factors in spite of varied products.

(*j*) Study of motor vehicle accident prevention techniques in various countries.

ASSOCIATION DES INDUSTRIELS DE BELGIQUE,
Brussels, 28th July, 1959.

DEAR MR. HUMPHREY: I duly received your letter of July 9, 1959, for which I cordially thank you, and I wish to say that I feel much admiration for the generous action undertaken by your Committee and by the United States Senate in favor of the preservation of the physical integrity of man in the presence of the scientific applications to industry.

Complying with your request, I am sending you enclosed a note containing a brief summary of some of the main activities of the AIB (Association des Industriels de Belgique) and I beg to leave it to you to appreciate whether or not certain of them may be considered to fall under the denomination of "biomedical research."

Certain studies among those mentioned, in particular those relating to the subject of "Adaptation of the Machine to Man," necessitate a considerable outlay for research and propaganda and it is not at all certain that such studies ever can be remunerative. We estimate that we ought to assign about four million Belgian francs to them. There can be no doubt but that the assistance of the fund which might be placed at the disposal of your Committee would permit to stimulate very much the work required, the results of which could be brought to the knowledge of all the countries.

In addition to the enclosed statement we are sending you, under separate cover, various publications of our organization:

Annual Bulletin 1959.
Information Bulletin, special issue, July 1957.
Information Bulletin, special issue, November 1958.
Document 2.K.
Notice No. 907/L.
Review PACT, issue of August 1955.
Review PACT, issue of June 1958.

Thanking you again for your kind letter, I beg to remain,

Yours sincerely,

G. DE REES,
Secretary General of the Second World Congress on the Prevention of Occupational Accidents.

ASSOCIATION DES INDUSTRIELS DE BELGIQUE

(For the study and propagation of appliances and measures calculated to protect the workers against occupational accidents)

The Association des Industriels de Belgique (AIB) is a nonprofit organization which was established nearly 70 years ago by a group of industrialists conscious of the need of undertaking an action tending to humanize work in industry. Its purpose can be compared with that of the NSC (National Safety Council) and of the IHF (Industrial Hygiene Foundation) in the United States of America.

It counts at present approximately 13,000 adherents and its personnel consists at the moment of more than 350 members of which there are 182 university engineers and technicians operating in Belgium and in the Belgian Congo.

Its action, which is exerted exclusively in the field of material and psychological prevention of accidents and of industrial health promotion evinces itself, after visits of the works and yards by its agents, by technical advices on the guarding of dangerous machinery parts, projects of safety organization, sessions of safety training for supervisors.

One of its departments specially busies itself with the inspection of the most dangerous industrial equipments (electrical plant, extractors, pressure vessels, winding ropes, hoisting apparatus, etc.) and the verification of the stability calculations of constructions and apparatus.

Another department deals particularly with problems of industrial health.

We insist on the fact that the AIB has adopted the absolutely general line of conduct of basing its safety criteria on the results of tests and it is for this reason that the AIB has been led to establish very important laboratories.

Thanks to these laboratories, all kinds of tests and researches can be undertaken, the results and findings of which enable the organization to provide its inspecting personnel with an ample supply of information (laboratories for destructive and for nondestructive testing, chemical, and physicochemical laboratories).

Except for certain important researches, this association does not receive subsidies from anyone whatever and its work and services are defrayed exclusively by the industrialists having recourse to its assistance, a fact constituting a criterion of the usefulness of the organization.

Every year a report is published containing the accounts of the association and a statement of the most recent activities of the various departments.

The AIB regularly keeps its affiliates posted up on everything that can assist them in the prevention of accidents and occupational diseases and in the promotion of health; with this object, it has published numerous notices based on the studies carried out in specialized quarters, on its own experience and research work, as well as on the abundant Belgian and foreign documentation analysed by its departments.

The association also publishes a journal entitled PACT (Prevention of Accidents and Technical Inspections) appearing every two months and devoted to documentation and propaganda; further, there is a bimonthly information bulletin, the editions of which run to thirty-five thousand.

To this must be added occasional publications which are sometimes very important; in addition, a number of pamphlets, posters, etc., and illustrated almanacs for distribution to the workers, are placed at the disposal of the affiliates.

The association organizes frequent meetings and lectures destined to confront the views of specialists in specified fields.

We wish to recall that in May 1955 was held in Brussels, under the auspices of the AIB, the First International Conference on Nondestructive Testing of Material, which was attended by more than 500 specialists from 27 countries, including the U.S.A., and the aim of which was to discuss the present state then of the various methods of nondestructive study and inspection of material (Radiography, Ultrasonics, Magnetic Particle Inspection, Electric Inspection, and various other methods).

In October 1955 a Day of Study on the "Adaptation of the Machine to Man" has been organized and on this occasion Dutch, English, French, and German experts met a large audience to which they gave an account of the knowledge acquired by their researches.

In May 1958, the Second World Congress on the Prevention of Occupational Accidents was organized on the initiative of the AIB. It was attended by more than 1,200 participants who came from 51 countries. The methods most suited to promote safety at work were set forth and discussed. The proceedings of this conference, which will be published in five languages (Dutch, English, French, German, and Italian) will shortly come out of press and will form a document of the greatest interest for the industrialists of the whole world.

Our organization promotes safety-consciousness by publishing technical articles in various journals, etc., such as:

"A Large Mechanical Installation for Duration Tests" by L. Baes and Y. Verwilst—Proceedings of the Society for Experimental Stress Analysis, Vol. XVI—No. 1.

With regard to the activity of the AIB in the "biomedical" field, which is so important from the point of view of preservation of the nation's vital forces, the action of our organization has a great extension.

The comfort of the workers resulting from regulation of temperature, lighting, ventilation, and reduction of noise in the workshops, the control of dust in yards and factories, the exhausting of gases, fumes, vapors, etc., are all questions which form the subject of our studies, pursued in the field as well as in our laboratories and oriented principally toward decrease of accident or occupational disease hazards.

Among the most noteworthy studies at present in progress, we should mention particularly—

(1) those relating to the elimination of noxious industrial dusts. The research work it carries out has allowed this department to design apparatuses for the sampling of media, placed at the disposal of affiliates, and for analysis in laboratory of the samples taken by them; it also permitted the development by the AIB of a procedure enabling to beat down dusts thanks to the dispersion of micelles of water judiciously calibrated, up to a concentration and size at which the dust particles are no longer injurious Good results have been obtained in practice by this method which is at present being examined by the committee on "Technical Control of Dust—Mines" of the European Coal and Steel Community (CECA, Luxembourg).

(2) those concerning technical inspections for Health in Industry. The inspections carried out by this department make it possible to find out if the contamination of the atmosphere in the workshops by noxious gases, damps and vapors does not go beyond the threshold values and to recommend measures to adopt for keeping below the maximum permissible concentration.

(3) the verification and acceptance inspection of personal protective equipment: helmet, gloves, goggles, footwear, masks, and shields. These protective devices can all be tested and inspected in accordance with standard specifications drawn up by the AIB, and marked for acceptance if they satisfactorily pass the tests.

(4) the studies connected with "Human Engineering."

These problems have formed the subject of a large amount of research work and of numerous studies. The experience gained by the AIB over 70 years in the matter of prevention of accidents enables it to say that the desiderata for improvement of the working conditions of the employee (reduction of the effort, lessening of fatigue, increase of comfort, enhancement of the personality of the workman) will be met more rapidly by direct action in the workshop and by the study of the particular cases arising in practice, than by the efforts which might be spent to apply measures of a general type.

What is required is to prove to the industrialists that endeavors to reduce fatigue and ameliorate the comfort of the worker represent exertions which are paying in the end both for the employer and for his personnel.

It must be found possible to sell to industry the researchers and the supervision in the workshops of the adaptation of the machine to man.

According to the methods applied by the AIB and having proved themselves in other matters relating to safety in industry, this can be done only by setting up criteria based on laboratory measurements. It is necessary to have at one's disposal appliances enabling the measurement, for all the jobs offering in industry, of the efforts exerted by the worker in the various positions; from this can then be deduced which is the most favorable position, the one necessitating the least amount of energy expenditure and being the most productive for the job under consideration. These apparatuses must also be sufficiently sensitive to be able to eventually register the rhythm of the heart and other physiological particularities connected with the execution of the work. It is only by recordings of this kind that the industrialist will be convinced of the results that can be obtained by the method, results which must be concrete and measurable. It is only later on that the perfecting of Human Engineering will be able to profit by the general ergonomics studies and that a method can be found deriving advantages from the work of all the specialists on this question.

To our knowledge the only apparatuses which at the moment can be used for adequately measuring the efforts exerted by a man at work are those of the specialist Lauru who has already applied his method in several industrial undertakings in the United States of America. As far as we know this method is the only one which enables the determination of the combined criteria of effort exerted at work and fatigue occasioned by it, by comparing the records obtained for the different positions and attitudes at work.

To introduce these methods of measurement of forces in industry, sustained efforts of propaganda, demonstration, and application will be required.

The object we are aiming at is to succeed in getting to the point where the industrialists themselves request the application of these methods for the morale and material benefit that can be derived from them, and to obtain from these industrialists that they pay the work and services necessitated by the application of the methods.

The setting on foot and the research work entailed by these studies, in particular that mentioned above in section (4), obviously need the putting up of money free of charge and the AIB is fully prepared to assign a large sum to the realization of this plan.

On the other hand, our organization readily accepts to diffuse gratis the results of its studies and research work in order that the rest of the industrial collectivity may also profit by them.

Memorandum on World Congresses

The First World Congress on the Prevention of Occupational Accidents was held in Rome, Italy, on April 2–6, 1955, and was opened by Pope Pius XII.

This congress stressed:

1. Technical Progress in Industrial Development.
2. Factors in Accidents.
3. The Prevention Problem.
4. Functioning Safety Committees.
5. Human Factors in Safety.
6. International Cooperation in the Field of Safety.

Brussels, Belgium, was the site of the Second World Congress on the Prevention of Occupational Accidents on May 18–24, 1958. It was attended by more than 1,200 participants from 51 countries and there was an excellent exhibit.

Subjects covered during the session were:

1. The Role of Governments.
2. The Role of Employers.
3. The Role of Workers.
4. The Role of Social Security Institutions.
5. The Role of Private Institutions.
6. Occupational Health Services.
7. Technical Assistance in the Field.
8. Criteria for the Classification of Accidents.
9. Notification, Classification and Investigation of Industrial Accidents.
10. Safety Training for Foreman.

PUBLIC HEALTH SERVICE MEMORANDUM ON ACCIDENT RESEARCH IN FOREIGN COUNTRIES

BRAZIL

Sr. G. Bastos da Costa Reis, Conselho Nacional de Pesquisas, Instituto de Pesquisas Rodovi'arias, Av. Presidente Vargas—435 3d Andar—Salas 305/307 Rio de Janeiro, Brazil.	Institute of Highway Research.

ENGLAND

W. H. Glanville, Esq., Director of Road Research, Dept. of Scientific & Indus. Research, Charles House, 5–11 Regent St., London, S.W.1, England.	
Brian G. Robbins, Sec., Automotive Division, Institution of Mech. Engineers, One Birdcage Walk, Westminster, London, S.W.1, England.	
Professor G. C. Drew, University College, London, England.	"Effect of Small Doses of Alcohol on a Skill Resembling Driving," British Medical Journal, 10/25/58. G. C. Drew, M.A.; W. P. Colquhoun, M.A., Ph.D.; Hazel A. Long, B.Sc.

FINLAND

Sauli Häkkinen, Institute of Technology, Helsinki, Finland.	"Traffic Accidents and Driver Characteristics: A Statistical and Psychological Study," British J. of Indus. Med., Vol. 16, No. 2, April 1959.

GERMANY

Dr. Enno Becker, Bundesverkehrswacht e.V., Rheinweg 97, Bonn, Germany.	Legal research.
Mr. F. Delfs, Landesverband fur das Verkehrsgewerbe, Schleswig-Holstein e.V., Sophienblatt 13/17, Kiel, Germany.	Interested in fatigue research.
Mr. Claus Hetschko, Rechtsanwalt, Beethoven Str. 51, Frankfurt am Main, Germany.	Handbook for German motorists, including health and safety.
O. Prokop and L. Prokop.	"Fatigue and Falling Asleep at the Wheel," Road Abstracts, Vol. 24, No. 10, p. 237, Oct. 57. Zentralblatt fur Verkehrs-Medizin, Gilderverlag Hans-Gebhard Dobler, Postfach 28, Alfeld-Leine, Germany, 1955, 1(1), 19–30.

INDIA

Mr. Tejbir S. Khanna, 323 Vinay Marg, Diplomatic Enclave, New Delhi 1, India.	Asst. Director (Traffic), Central Road Research Institute, New Delhi 20, India; and Traffic & Transport Consultant, Delhi Administration.

ITALY

Signor L. F. Signorini, Instituto di Igiene, Universita Degli, Studi di Firenze, Vilae G. B. Morgagni, Florence, Italy.	
Professor Luigi Volpicelli, I Problemi della Pedagogia, Revista Bimestrale Diretta dal Ordinario di Pedagogia nell'Università di Roma, Direzione e Amministrazione, Roma, Via Corsini, 12, Italy.	Safety education.

MEXICO

Dr. Rafael Guel J., Dirección de Epidemiología y Campanas Sanitarias. S.S.A., Reform y Lieja, Mexico, D.F.	Public health.

SWEDEN

Fil. Dr. Gosta W. Funke, Statens naturvetenskapliga forskningsrad, Dobelnsgatan 64,[1] Stockholm, Sweden.	Swedish Research Council—highway safety research.
Professor Lennart Carleson, Department of Mathematics, Uppsala University, Uppsala, Sweden.	"En Matematisk Modell For Landsvagstrafik" (A Mathematical Model for Highway Traffic), Sartryck. Nordisk Matematisk Tidskrift. Band 5. Oslo, Norway, 1957.
Professor Bo Kjellberg, Division of Mathematics, Royal Institute of Technology, Stockholm 70, Sweden.	Paper being translated into English.

Source: National Safety Council, June 10, 1959.

5. Views of Deans and Other Faculty Members of North American Medical Schools

Senator Humphrey. This and the following subsections are devoted to comments from the experts who bear responsibility for much of the world's current and future research efforts—the deans and other leading faculty members of medical schools.

It is, of course, universally recognized that the bulwark of any nation's activity in medicine consists of its system of medical education. There must be an intimate relationship between the teaching of medicine, research in medicine, and practice of medicine.

QUESTIONS NEEDING ANSWERS

In subsections 5 and 6 of this section we seek answers to such questions as:

In what ways are their respective schools of medicine now active as regards international medical research and assistance?

Specifically, what is the judgment of the deans of medical schools as regards current and future possible exchange programs?

This initial subsection is confined to the role of North American medical schools in graduate and postgraduate education and with particular reference to international medical research. The replies which follow are but a few of the considerable volume of correspondence which we have received from the faculties of North American medical schools. Most of these replies were in response to an inquiry which was sent specifically to the deans of schools of medicine and schools of public health.

In view of the vast responsibilities confronting the deans, many of them wrote stating that it was unfortunately not possible for them to reply in detail. Numerous deans transmitted the texts of annual reports of their schools and other memoranda and material containing valuable references to their international work.

In the case of the deans who responded, we have reprinted the text of their replies in full. The only material omitted consists of comments not relevant to this particular phase of our study.

The sum total of the replies is not intended to be considered as necessarily representative of the views of all North American medical school deans; it is simply an attempted sampling. In a few instances, where it was not possible for a dean to reply in full as regards the work of his medical school, the reply of a leading faculty member is included.

In addition to this correspondence with individual colleges, we have had very valuable contacts with the Association of Accredited American Medical Colleges. We have reviewed, for example, the problems of accrediting of foreign residents and interns, a matter of very deep interest to our country—both in terms of (a) the medical care of our own citizens and (b) in terms of the impact on international relations.[1]

A. SUMMARY OF COMMENTS BY 36 DEANS

As the initial replies were received, a staff analysis was made of the viewpoints represented. This staff summary follows. It includes, it should be noted, reference to comments by deans of four Canadian medical schools. We of the United States have had such close scientific and other relations with our good neighbor to the North that we regard one another's accredited medical schools, whatever the national differences, as almost inseparable. I hope, that in the years to come, cooperation between United States medical schools and European, Latin American and other institutions will be as close as that which we now enjoy with our Canadian friends.

SUMMARY OF THE CURRENT AND RECOMMENDED ACTIVITIES OF MEDICAL SCHOOLS IN INTERNATIONAL HEALTH WORK

Thirty-six American and four Canadian medical schools replied to the subcommittee questionnaire with sufficient information to permit analysis. Their individual detailed responses follow this summary.

Current Activities

The most popular activity presently undertaken by the schools is that of accepting foreign students for training. In terms of specific comments in the letters, a total of seven schools are thus reported to be engaged. Six schools report a number of foreign visitors who spend varying periods of time on their campuses. These visitors are physicians and scientists who for the most part have come to observe American methods and procedures. Six schools have members of their faculties who serve as consultants to foreign countries in assisting them in their educational and research programs. The coordination of research activities and participation in international meetings and congresses of scientists was each reported by five schools. These overlapping functions probably accounted for some duplication. Finally, two of the schools report that they have special identified units which are involved in international health work both in research and training.

Recommendations for Additional International Health Activities

The following suggestions for expanding American participation in international health programs is a classification of the recommendations of the deans or their delegates into a number of headings. A total of 10 schools requested additional financial assistance to permit an expanded program of foreign visitors and students at their institutions. They indicated a significant lack of ability to meet the requests which they receive because of a shortage of funds. A similar type of assistance was involved for "promoting two-way exchange" which was suggested by four deans, and to increase faculties and buildings in order to handle more oversea visitors was proposed by five deans.

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[1] See subsec. 11, p. 1165 ff.

Eight schools recommended increased support for oversea research by direct grants to foreign applicants. Seven deans stressed the need for improved communication between scientists in order to improve the coordination of research activities between the various foreign countries and the United States. Four deans suggested direct support of foreign medical schools as the surest way of improving the health status of residents of foreign countries.

It was pointed out by seven deans that increased international health activities by the United States is an excellent way to enhance our foreign policy position. They felt that health is a program which is acceptable to almost all countries and that there are fewer political implications in health programs than in others. In order to carry out these programs, five deans recommended that the International Cooperation Administration staffs and programs be improved and expanded in order to handle the size of the program which they recommend. From two schools came the suggestion that it is necessary to improve the quality of our international health programs, and one dean recommended that in carrying out these programs close cooperation with the World Health Organization is essential.

Specific suggestions by one dean each were: (1) to list the foreign born or educated scientists in the United States in order to demonstrate the value of enriching our scientific reserve with these people; (2) to make a major contribution by establishing programs for the manufacture and distribution of pharmaceuticals in underdeveloped countries; and (3) to assure that the fruits of improved health in these countries will not be dissipated by a too rapidly increasing population.

A note of caution was sounded by three of the deans. They pointed out that the base for expanded international health programs would have to be the present American medical schools. These schools are already having serious financial difficulty in meeting their obligation to train American students and would find it financially impossible to expand their faculties or facilities in order to lend support to these programs. They, therefore, suggested that consideration should be given first to providing financial support to American medical schools before rapidly expanding international health programs.

Conclusions

Replies from the 36 schools make it clearly evident that they are seriously interested in American international health activities. Many of them are currently engaged in a variety of activities and many more would like to see these programs expanded. The value to the United States of increased exchange of scientific information in the health field was repeatedly stressed. The only caution was the financial inability of the current schools to support an expanded program.

B. COMMENTS BY DEANS OF NORTH AMERICAN MEDICAL SCHOOLS

The following comments are arranged alphabetically by State and name of the university. At the end, the texts of the replies from Canada are printed as a group.

UNIVERSITY OF ARKANSAS, MEDICAL CENTER,
Little Rock, December 3, 1958.

DEAR SENATOR HUMPHREY: * * *

The plan (for the subcommittee study—ed.) as outlined is, indeed, comprehensive and would appear to be thoughtfully developed. It would be difficult to be brief if I were to attempt to comment to any extent on the details of the plan. Therefore, at this date I would merely like to congratulate you and your colleagues on your broad concern in the field of international health. This country can do much to secure the future by understanding and assisting other countries and their people in their health problems.

A wide exchange program of physician-scientists would be most productive both in advancing medical research and practice and in the dissemination of knowledge, ideas, and understanding. Concomitant programs boldly aimed at assistance through self-help cannot but make the people of underdeveloped areas proud of their own accomplishments and at the same time grateful to this country for its humanitarian interests and constructive assistance.

Please be assured that the University of Arkansas' new Medical Center and I personally will be most pleased if we can in some way contribute to your enlightened program. Do not hesitate to call upon me if you feel that I can be of assistance.

With best wishes for a successful program,

Sincerely yours,

F. DOUGLAS LAWRASON, M.D.,
Provost for Medical Affairs.

UNIVERSITY OF CALIFORNIA MEDICAL CENTER,
Los Angeles, Calif., December 22, 1958.

DEAR SENATOR HUMPHREY: This letter refers to your letter of October 27, 1958, concerning the interest of your Subcommittee on Reorganization and International Organizations in reviewing international health activities being undertaken by American scientists and scientific agencies. We are very anxious to cooperate with this extremely important project since it will lead unquestionably to international understanding and enhanced collaborative study in the biological sciences.

Of many groups in the School of Medicine here which have had contact with international scientific endeavor, perhaps the experience of the Brain Research Institute is most extensive. In the five years of its existence, 63 visiting investigators from 26 different foreign countries (see appended list) have come to the University of California at Los Angeles, usually from one to two years, to join with our own scientists in studying brain function and disorder. In most instances these visitors were the keenest students in their own countries with interest in this area of investigation. Usually, they returned to their native land to become leading figures in this field or, in many instances, to establish the first laboratory equipped for brain study. In other cases, leading scientists have come to us to exchange information and collaborate with members of the staff of the Institute in order to develop some investigation of common interest.

Most of these visitors have come from Europe and the Americas, although you will note many with homes in India, Nationalist China, Japan, Ceylon and Australia. Their keen interest in coming to the United States is exhibited by the fact that we have 17 applications on file of investigators who wish to come here but who have not been able to obtain funds to support their visit. Nearly always, assistance which permits them to come here derives from some agency in this country, and rarely do they receive help from their own government.

A recent development which has impressed us is the increasing interest being expressed by Russian and para-Russian scientists in collaborative exchange with our own investigators. During the past year, we have been visited for a few days to two weeks by leading neurophysiologists from Poland, U.S.S.R., Rumania and Jugoslavia, and these men presented lectures, observed experiments and exchanged scientific information with members of our staff. In each instance, the visitor expressed the sincere hope that an interchange of students could be accomplished soon; at the present time we have two applications on file from young men in these countries.

The experience of members of the Brain Research Institute with international contacts of all kinds illustrates that of other groups here at the University of California at Los Angeles. Such contacts are almost constantly in planning or in effect in the form of symposia, colloquia or congresses all over the world. During the past year, for example, members of our Brain Research Institute met with colleagues of other nations at meetings in London, Brussels, Paris, Moscow, Pisa and Mexico City, and plans are complete for others in the near future in Uruguay, Buenos Aires and Santiago, Chile. Through such contacts, the activities of foreign scientists have become very familiar to members of our staff as have the needs and deficiencies of these colleagues of other lands.

Because of opportunities such as those mentioned above to collaborate or exchange information with foreign scientists, we are convinced that any undertaking which is directed at expansion of international exchange is certain to be tremendously rewarding. In some scientific fields such as brain research, the center of activity is focused in this country, while in other research areas, greater advance has doubtless been made elsewhere. In any case, exchange of ideas is universally recognized as a privilege by scientists of all kinds. Enhanced facilities for conducting such exchange can lead only to scientific advance and improved international understanding.

I have reviewed what we are doing in the area of foreign medical scholars in our Medical School. Our campus here at UCLA also has a large body of foreign scholars and many under-graduate and graduate foreign students. There are many departments and individual specialists of all fields of science and the humanities with interests in these men and their countries.

Thus we are well aware of the great importance of your proposed study and would be glad to help in any way.

Should any questions arise which you might feel we could answer, we would be most eager to hear of them. If you consider it possible that some member of our staff could offer information which would aid in your deliberations, we shall be pleased to arrange for him to come whenever you might wish.

Sincerely yours,

STAFFORD L. WARREN, M.D., *Dean.*

NOVEMBER 19, 1958.

LIST OF FOREIGN FACULTY SINCE 1951

Name	Country	Institution and rank [1]	Dates at UCLA
Adey, W. Ross	Australia	Senior Lecturer in Anatomy, University of Melbourne. At UCLA as Assistant Professor of Anatomy and Physiology in 1953. Here again to assume permanent position as Professor of Anatomy and Physiology.	8/1/57–
Carleton, Alice	England	Regional Consultant in Dermatology, Radcliffe Infirmary, Oxford.	9/1/58–1/31/59
Ghantus, Musa	Lebanon	Associate Dean, Medical Faculty, American University of Beirut.	9/1/56–1/31/57
Kerr, David	Australia	Lecturer in Physiology, University of Adelaide	2/1/53–6/30/54
Quilliam, Andrew	England	Lecturer in Anatomy, University College	7/1/56–7/31/56
Scherrer, Harold	Austria	Research Assistant, Graz University	7/1/53–6/30/54

[1] Institute and rank prior to joining the Department of Anatomy, University of California at Los Angeles.

NUMBER OF VISITORS (BY COUNTRY)

Japan	13	Sweden	4	Austria	2
Italy	9	Australia	3	Ceylon	2
England	7	Canada	3	Spain	2
France	6	India	3	Uruguay	2

The following countries have contributed one visitor each: Argentina, Belgium, Brazil, China, Egypt, Germany, Holland, Lebanon, Mexico, Peru, Philippines, Switzerland, Thailand, Venezuela.

Total: 70 visitors from 26 countries.

THE UNIVERSITY OF CHICAGO,
THE DIVISION OF THE BIOLOGICAL SCIENCES,
Chicago, Ill., December 3, 1958.

DEAR SENATOR HUMPHREY: In response to your letter of October 27 requesting my judgment of a project on international medical research and service of special interest to the Subcommittee on Government Operations, I am pleased to make the following comments which include both reservations and favorable support:

First, as to the favorable aspect, there can be no doubt in my mind that we could profit enormously as a nation and as a world if the research efforts of our qualified scientists could be more closely coordinated, although there is a great deal of coordination and exchange of ideas. I have just today entertained five Russian scientists, biochemists, who are much interested in American medical education and research. Both our staff and the visitors profited enormously. But more needs to be done in this direction.

With minor exceptions the diseases of mankind vary little and those that do do so largely on the basis of diet, climatic conditions or infectious agents, and not on racial differences. That we in this country are blessed with one of the best ratios of scientists and physicians to the total population is well known. We are in a somewhat less favorable position in this respect than certain Scandinavian countries. On the other hand, a major portion of the world is still without adequate talent either for medical research or medical care

As one interested in public health from my early days with the Rockefeller Foundation to the present as an alternate delegate to the World Health Organization, I have been much concerned with these problems. The one concern of paramount importance to me comes from the U.S.S.R. which possesses approximately the same medical schools as we, yet turns out three or more times the number of graduates in the health field each year.

Thus Russia is in the position of exporting literally hundreds of such individuals who are badly needed and there is no problem of assignment to any particular area or for any particular period of time, unlike ourselves. The success of the Rockefeller Foundation is based upon its acceptance into the underdeveloped areas in the world without suspicion, because everyone knew that the doctor or the sanitarium had no imperialistic designs.

This country is not keeping up with its own needs as far as the future is concerned. When we look forward to the great increases in the upper age groups in which there are serious medical problems, we realize we are going to fall far short of medical personnel. If we just maintain the same rate of increase of physicians and researchers to that of the population, anyone can quickly determine that a few years from now we are going to have a serious problem.

This brings me to the "reservations" part, namely, I do not see how we can afford to engage in an important international project unless there are more positive steps to bring the American schools of medicine and public health up to their potentials.

At the present time at my institution we literally reject weekly—or even daily—requests to train foreign people, most of whom could be handled if there were adequate research space and facilities. A positive program of the kind I visualize from your Congressional interest to attract them over here would place such a staggering load on our existing schools that I believe more harm would be done than good accomplished. Our government is not even permitting the payment of the total costs of research to our schools and thus is draining dollars from the institutions that should go to increase their facilities and research and teaching talent.

Many have grants for additional research facilities on a matching basis from the Public Health Service which cannot be fulfilled because it is utterly impossible for them to raise the private matching funds.

In conclusion, all I am saying is first things come first. And, although I am in complete sympathy with the objectives of the international exchange and service program in medicine, I am suggesting that some very important steps must be taken to satisfy the needs of our own institutions (which incidentally would like to participate in these programs) [and that grants] be provided before this step is taken, or at least the consequences thoroughly explored. I am taking the liberty of attaching a recent talk I gave before the Association of American Medical Colleges which deals with some of these problems with which we are faced.

Sincerely yours,

L. T. COGGESHALL, M.D., *Dean.*

COLUMBIA UNIVERSITY,
COLLEGE OF PHYSICIANS AND SURGEONS,
New York, N.Y., March 10, 1959.

DEAR SENATOR HUMPHREY: We are writing to tell you that the College of Physicians and Surgeons, Columbia University, stands ready to do all in its power to help you with your project on international health. Our school is interested in this program in several different areas. We have recently established an Institute of Nutrition Sciences with Dr. William H. Sebrell, Jr., as director. This institute, of course, will have wide international interests * * *

Sincerely yours,

H. HOUSTON MERRITT, M.D., *Acting Dean.*

EMORY UNIVERSITY SCHOOL OF MEDICINE,
Georgia, December 1, 1958.

DEAR SENATOR HUMPHREY: In answer to your letter of October 27, 1958, and speaking for Emory University School of Medicine, I can assure you we are very much interested in the project to review international health activities in the United States. We recognize the international relations of research and education, not only because the United States has a responsibility to assume

leadership in this field but because it is essential to the maintenance of our strength as a first-rate nation.

Your program is ambitious and at this stage I doubt if it is possible to establish a detailed program which will accomplish your aims. Your first impulse would be to collect information by a questionnaire. I would recommend that you not depend on such an approach. A much more satisfactory plan would be for someone on your staff to make project site visits and discuss the matter with appropriate people in various areas of the country.

Rest assured, however, we will do anything possible to assist you.

Sincerely,

ARTHUR P. RICHARDSON, M.D., *Dean.*

THE GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE,
Washington, D.C., February 2, 1959.

MY DEAR SENATOR HUMPHREY: Some time ago, Associate Dean Griffin, our Chairman of Research, and I went over in detail the inquiry of your Subcommittee on Reorganization and International Organizations, particularly with reference to international health and medical education. We found that your subcommittee had prepared a comprehensive, stimulating and challenging outline of activities. I am sure that all American educators share with you the proposal to improve medical research through cooperative worldwide participation of scientists. However, to accomplish the objectives presented, it is essential that we provide education for an increasing number of medical scientists and practitioners.

Surgeon General Burney, in his Martin Memorial Lecture before the American College of Surgeons, entitled "Physicians for Tomorrow," lists medical education as our first professional obligation. Perhaps you have had an opportunity to read Doctor Burney's lecture. If not, a copy is enclosed. His impressive summary indicates that the foreign medical graduate is one of our largest imports, accounting for approximately 10 per cent of physicians licensed to practice each year.

For American men and women to hold their rightful place in world leadership, our schools should be in a position to produce at least as many physicians as are needed by our population and research laboratories. Otherwise, exchanges will be to the detriment of not only our own country, but the world at large.

In the past 15 years, subsidies from our national government have provided funds for construction of hospitals throughout our country. During the past three years, funds have been available for the development of extensive medical research facilities. Similar funds have not been provided for medical education. Hospital and research facilities have completely outgrown our supply of doctors and medical technicians. A larger number of physicians and medically trained personnel must come from our educational centers.

Building funds and scholarships are urgently needed. Each of our 85 schools of medicine has its individual quality of identification. All of our schools produce a well-educated, highly qualified physician. To those of us in medical education, there is no unmet need more urgent to our country's welfare than improvement and expansion of our medical teaching facilities.

Medicine has been and always will be our second line of national defense. Medical science is essential to survival. Health is man's most important possession. Medicine is more uniform than religions, more equitable than laws, as exacting as engineering, and as universal as life itself. It is perhaps for these reasons that physicians from all over the world can meet and exchange thoughts freely with complete cooperation and mutual respect. The language of medicine itself leads to understanding among physicians from all areas of the world. The quality of medical science in the United States has reached a high level. Our health resources can be maintained only through meeting the educational demands of an increasing population and a closer world organization. America's most critical need today is better facilities for education in the medical sciences. Without immediate support, the doctor deficit of the next decade cannot be prevented.

Dean Griffin and I were pleased with your expressions regarding medical facilities and education in the Washington area. It is truly a privilege to have a part in medical science in the Nation's Capital, and you may count upon us for any assistance which we can provide your committee.

Most sincerely yours,

JOHN PARKS, M.D., *Dean.*

GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE,
Washington, D.C., November 26, 1958.

DEAR SENATOR HUMPHREY: Thank you for writing to me about the activities of your subcommittee in a review of international health activities.

It is evident that the medical schools of the United States are making a considerable contribution by virtue of the training they offer to physicians and to others working in the health field. Many of the people who come to us from abroad for such training return to their own countries where they assume important positions in education, research or health service. The extent of this activity is difficult to estimate, but I believe that it is very large. I doubt that any one agency could supply all the facts about it. It has some interesting personal aspects. For example, here at Georgetown, we have had a number of young men who are being trained specifically as medical educators, against the day of their return home.

If these thoughts have any practical significance for the subcommittee, it is possible that you could get the full story by questionnaire to the schools of medicine and other schools of the health field. If you were to think well of that idea, I suggest that the Association of American Medical Colleges might be willing to assist in the development of the questionnaire and, indeed, in its processing.

Sincerely,

HUGH H. HUSSEY, M.D., *Dean.*

THE HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF PHILADELPHIA,
Philadelphia, Pa., December 3, 1958.

MY DEAR SENATOR HUMPHREY: Although the research grants budget of this medical college is in the order of $800,000 per year, there is no program for exchanging scientists with foreign countries. So far as international medical service programs are concerned, I can only say this institution does from time to time accept applicants for the prescribed courses in medicine from abroad. In recent years these have tended to come from India, Korea and Greece.

I shall be very glad, indeed, to be helpful to your committee in reviewing international health activities but I honestly believe that our own participation in such enterprises has been too rudimentary to give us any worthwhile experience to set before you.

Sincerely yours,

CHARLES S. CAMERON, M.D., *Dean.*

HARVARD UNIVERSITY, SCHOOL OF PUBLIC HEALTH,
Boston, Mass., May 6, 1959.

DEAR SENATOR HUMPHREY: In reply to your request I am pleased to comment on certain problems associated with the support of medical research on a global basis. The subject is of particular concern to me inasmuch as the academic, research, and consultative activities of this department deal with the health problems of the tropical and underdeveloped areas of the world. As a consequence of these activities, there has been ample opportunity to observe medical and health needs in various parts of the world. These contacts have caused me to question the effctiveness of some of the current practices and philosophies bearing on the support of medical research. Three areas of particular concern are:

1. The prevalent impression that the solution to major medical problems may be purchased in terms of increased appropriations and as the result of "crash programs"; this concept is both fallacious and wasteful.

Unfortunately, money cannot buy productive research—that is, individuals who will produce the new ideas as opposed to the research technician * * *. Fellowships and training grants aid in the development of research workers—these financial aids are now available in numbers and are most helpful. However, the young man with an inclination toward research must see in his future the possibility of some sort of a tenure position; the problem of expanding the medical research potential of the United States is intimately associated with the problem of stabilizing the financial status of our medical and public health schools. The shortage of good candidates for research fellowships is now acute—we see both institutions and departments within institutions competing for

trainees—and, as a paradoxical consequence, the trainee may even draw more money as a "stipend" than does his instructor as a salary. At the moment in several areas of so-called categorical research, the supply of research money is in excess of the supply of competent personnel. It is important to emphasize further that most of the basic discoveries in medical science to date have come from the small laboratory of the individual scientist or small group of scientists. The academic environment historically has been one wherein the individual worker could follow his individual whims and could satisfy an innate curiosity. There is the obvious danger that the promising individual forced by economic circumstances to affiliate with the large research institute may, of necessity concentrate on the "team" approach to the detriment of real scientific progress.

2. The failure to consider the health needs of different parts of the world in terms of differing priorities.

As recorded in the third publication of your committee on "The Status of World Health", for some two-thirds or more of the world's population the infectious and nutritional diseases remain the primary cause of mortality—in such regions, where life expectancy is under 50 years, and where three out of five children die before reaching six years of age, the requirements for medical progress are radically different from those in the United States or northern Europe. Particularly in underdeveloped areas, progress in health is dependent upon complexly interrelated scientific, economic, educational and cultural factors; development in health must be phased with development in other interrelated areas if permanent benefit is to accrue.

Unfortunately, with the emphasis in the crowded curricula of our medical schools and public health schools on the problems of the United States, there is little time devoted to the major health problems of other areas of the world. If the United States is to provide effective technical assistance in the health field to the underdeveloped areas, it is imperative that a specially trained career corps of highly skilled medical and health experts be developed. Obviously it is important that these experts possess the basic knowledge needed to attack malaria, schistosomiasis, and dysentery, etc. It is even more important that they have the concept of prevention at the community level as contrasted to the philosophy of cure of the individual. Few people with the necessary skills and with this philosophy now exist either inside or outside of government in the United States.

The failure to appreciate the tremendous gap existing between the health facilities in the United States and in much of the rest of the world now impairs the effectiveness of many of our activties. For example, we bring doctors from all over the world for postgraduate training in the United States modeled on our pattern. This pattern is often inappropriate. As an example, we train surgeons in open-heart operations and then return them to countries where equipment is lacking, where cultural patterns do not allow for the operation of blood banks, and where even if they could perform cardiac surgery, such operations would benefit only the few. All too often doctors who have received specialty training in the States are frustrated on return to their home country. At best they try to practice State-side medicine in the larger cities and at worst leave their country for more highly developed regions.

A similar situation obtains when we expend United States funds in underdeveloped areas to build elaborate hospitals or schools and equip them with radioisotope research units, electron microscopes and similar complex research equipment. The basic health priorities are not considered and as a result there is little or no benefit to the indigenous population.

3. A third area of concern has to do with the general philosophy now prevalent that would seem to consider the "eradication of disease" as an attainable and completely desirable objective.

Certain aspects of this problem are covered by Dr. Rene Dubos in his recent book, "The Mirage of Health", which may be commended to your committee.

I am concerned with the apparent lack in certain quarters of an appreciation that the health problems of man must be approached in an ecological and biological manner. Man, the agents of disease, and the environment are dynamic, not static. The solution of one problem usually brings others. There has been undue satisfaction over our successes with antibiotics in the control of infectious diseases. Dubos emphasizes the economic costs of this so-called triumph. The "categorical triumph" may be of short duration as we see the problems of resistant-organisms multiply. Similarly, the worldwide malaria eradication program now begins to encounter increasing problems with insect

resistance. Or we see old problems return—in Boston this winter the prevalence of streptococcal disease (scarlet fever) and its complications is highest since World War II.

There will be a continuing battle against infectious agents. As Dubos points out, we have yet to extend life expectancy significantly as the result of studies on the chronic diseases. Our resources, in terms of scientific manpower, are extremely limited and will continue so for the foreseeable future. It is essential that these resources be employed in a well-balanced program designed to ensure the greatest possible benefit. The preservation of health derives from the prevention of disease. Prevention of disease, and not cure or rehabilitation, deserves overwhelming emphasis in both national and international planning to strengthen medical research.

Sincerely yours,

THOMAS H. WELLER, M.D.,
Richard Pearson Strong Professor of Tropical Public Health and Head of the Department.

HOWARD UNIVERSITY,
Washington, D.C., April 9, 1959.

GENTLEMEN: Enclosed herewith, in accord with your request, is a copy of the Annual Report of the President of Howard University, forwarded to the Department of Health, Education, and Welfare, covering the school year ending on June 30, 1958.

If there is any additional information which you need, please let me know.

Sincerely yours,

MORDECAI W. JOHNSON, *President.*

ANNUAL REPORT OF THE PRESIDENT, HOWARD UNIVERSITY, JUNE 30, 1958

Howard University, located in the District of Columbia, was chartered by act of Congress on March 2, 1867. The university offers programs of higher education on the undergraduate, graduate, and professional levels. Undergraduate students are registered in the college of liberal arts; graduate students seeking the master's and doctor of philosophy degrees are registered in the graduate school; professional students are registered in the colleges of medicine, dentistry, pharmacy, and the schools of engineering and architecture, music, social work, law, and religion. (The school of religion receives no support from Federal funds.)

The educational program of Howard University is conducted in keeping with the democratic purposes of the land-grant colleges and State universities with the low tuition fees and living costs which characterize these State institutions and with an educational program resting upon and permeated by the content and spirit of a general or liberal education. The university admits students of both sexes, from every race, creed, and national origin, but it accepts and undertakes to discharge a special responsibility for the admission and training of Negro students.

Enrollment of students

During the school year 1957–58, the university served a total of 6,267 students as follows: 4,899 during the regular academic year and 1,368 in the summer session of 1957. The net total enrollment, excluding all duplicates, was 5,356, distributed in the 10 schools and colleges as follows: liberal arts, 2,466; graduate school, 542; engineering and architecture, 751; music, 260; medicine, 317; dentistry, 539; pharmacy, 133; law, 107; social work, 190, and religion, 51.

Geographical distribution of students

Of a total of 4,899 students enrolled during the regular school year, 4,393 or 89.7 percent came from 40 States and the District of Columbia, while 506 students or 10.3 percent came from outside the continental United States including 43 foreign countries and 4 possessions of the United States.

The 4,393 students who came from the United States were distributed as follows: New England States, 69; Middle Atlantic States, 674; East North Central States, 246; West North Central States, 74; South Atlantic States, 2,713; East South Central States, 313; West South Central States, 260; Mountain States, 7; and Pacific States, 37.

The 506 students from outside the continental United States came from 43 foreign countries, including 10 countries in Africa, 11 countries in Asia, 11 coun-

tries in Europe, 6 countries in Central America, 3 countries in South America, and 14 island possessions in the British and Netherlands West Indies.

* * * * * * *

Graduates

During the school year 1957–58, there were 631 graduates from the 10 schools and colleges, compared with 560 graduates during the year 1956–57. These graduates came from 30 states, the District of Columbia, the Virgin Islands, Puerto Rico, and the following foreign countries: Ethiopia, Liberia, Nigeria, India, Israel, Barbados, Bermuda, Grenada, Jamaica, the Netherlands West Indies, Bulgaria, Russia, the Philippines and British Guiana.

These 631 graduates were distributed among the 10 schools and colleges as follows: liberal arts, 284; engineering and architecture, 63; music, 16; the graduate school, 53; social work, 33; medicine, 67; dentistry, 47; dental hygiene, 8; pharmacy, 24; law, 27; and religion, 9.

Two of these graduates were persons receiving the degree of doctor of philosophy in chemistry. These two graduates were the first students to be awarded the degree of doctor of philosophy at Howard University. Three honorary degrees were also conferred.

* * * * * * *

The largest number of graduates have entered the field of teaching, primarily in the Southern States. Two thousand nine hundred and forty have entered the practice of medicine; 2,420 have entered the practice of dentistry and dental hygiene; 2,355 have entered the field of law; 777 have entered the ministry; 848 have entered the field of pharmacy; 646 have gone into engineering and architecture; and 390 have entered the field of social work.

Service in foreign countries

In recent years teachers and students from Howard University have served in Burma, Brazil, Egypt, Ethiopia, Germany, India, Israel, Iraq, Italy, British Guiana, Japan and Vietnam. Fulbright scholars from the university have worked in Egypt, Ghana, Iraq, Japan, Norway, Sweden, Denmark, Italy, France, Greece, England, and India.

The responsible leaders in Government and the friends of America again and again have acknowledged their services as being of the greatest value to their country and to the cause of democracy in the world.

* * * * * * *

THE JEFFERSON MEDICAL COLLEGE AND MEDICAL CENTER,
Philadelphia, Pa., November 26, 1958.

DEAR SENATOR HUMPHREY: I received your letter of October 27 concerning the activities of the Subcommittee on Reorganization and International Organizations in reference to the review of international health activities. I have several comments that I would like to make, which are based upon several of my personal experiences.

I should preface these remarks by stating I spent a year (in 1951) as Visiting Professor in Calcutta, India, under the Fulbright program. I think some of the things carried out under that program were effective, but in my travels to and from India I noted in my relationship with physicians in those areas certain aspects of our approach, which I believe worthy of comment.

These are:

1. Many of the physicians with whom I had contact in India, especially the ones outside of government service, were extremely anxious to receive information concerning American medicine, American ways of treatment, and the approach of American medicine in the care of patients. This information is not readily available to these people. Government officials in those areas, particularly in health and medical circles, are often very efficient people who do an excellent job. They do not, however, reflect the attitudes and problems of the physician group as a whole. This physician group wields a great influence with its daily contacts with the people, and it is at this level where much can be done to help attitudes on America.

In other words I believe the job is well done at governmental level and not well done with an educational group reaching the people in an intimate fashion.

2. On my return from India I spent some time at the American University at Beirut, where I have friends and old associates in the School of Medicine. They arranged contacts for me in Jordan, essentially for sightseeing. These contacts were with the medical school at the University of Beirut. In the areas outside

of the medical center it became evident that the AUB was effective in carrying the story of America and American medicine to their people, despite the fact that our nation was not very popular with the people when I was there.

The men who had trained under American physicians at AUB were intensely loyal and were some of our best unofficial ambassadors. The operations of this sort at AUB, and maintenance of relationships with the people who have come through institutions of that type, represent an important area in which I believe we are not doing a satisfactory job. Here again is a group outside of government in these areas, which wields an important influence on the people.

I hope that these thoughts will be of help to your committee.

Sincerely yours,

WILLIAM A. SODEMAN, M.D., *Dean.*

THE JOHNS HOPKINS UNIVERSITY,
SCHOOL OF HYGIENE AND PUBLIC HEALTH,
Baltimore, Md., October 13, 1958.

DEAR SENATOR HUMPHREY: This will acknowledge your letter of September 10th concerning your study of international health programs. I am happy to give you such information as I can concerning the activities of this institution in the international health field.

The School of Public Health has, since its establishment in 1916, engaged in training and research that is international in character. The student body of the school is always made up of representatives of many different countries. For example, in the present student body 22 countries are represented. Some of these countries are sending several students, others sending only one or two.

The school has engaged in various kinds of international programs, both in teaching and in research. For example, for the past 5 years, we have engaged in an Exchange Program with the University of the Philippines, in which members of the faculty of this institution participate in the teaching at the School of Public Health at the University of the Philippines. For the past 5 years from two to five of our faculty have been in residence in Manila, participating in the teaching program and assisting in the development of research activities of particular interest to the Philippines. This program has been jointly sponsored by this university, the World Health Organization, and the Rockefeller Foundation. The Rockefeller Foundation has recently completed an evaluation of this program which seems to indicate that it has been of considerable value to the University of the Philippines and to the development of public health in that part of the world. We estimate that the contribution in terms of faculty salaries provided by the university has been in the neighborhood of $100,000 during the the 5-year period.

Another area of international health activity in which the school has been involved is in specific research programs. For example, the World Treponematosis Center is located in this institution. This center receives strains of treponema from all over the world and provides standardized biological products for the development of such research activities in the field which require materials for the application of the treponema immobilization test.

Members of the faculty of the school, working with the Bureau of Medicine and Surgery of the Navy, have carried on studies of filariasis in the South Pacific over the past 10 years.

Two faculty members have served as consultants to the World Health Organization in the development of the Yaws Eradication Program in Haiti and in Indonesia. Another member of the faculty has participated actively in the World Health Organization Program for Malaria Eradication as a consulting medical entomologist. In each instance the faculty member was loaned by the University to the international agency concerned at no cost to the international agency, in terms of salary.

Doctor Wolman and Mr. Kruse of the Department of Environmental Health have been loaned by the university to assist in the development of environmental sanitation programs in 12 different countries. During the past 12 years I do not believe that there has been a time that at least one member of the faculty of this school was not on leave of absence with pay to participate in some form of international health activity. We believe this to be one of the most important public service functions of the university.

If I can be of any further assistance or give you any additional information that would be useful to you in your studies, I would be very happy to do so.

Very truly yours,

ERNEST L. STEBBINS, M.D., *Dean.*

THE JOHNS HOPKINS UNIVERSITY, SCHOOL OF MEDICINE,
Baltimore, Maryland, December 4, 1958.

DEAR SENATOR HUMPHREY: It is a privilege to comment on some of the issues raised in your letter of October 27. In addition to my deep interest in medical research as Dean of The Johns Hopkins Medical School, I have had a long-time preoccupation with international health stimulated by serving as a staff member of the International Health Division of the Rockefeller Foundation for eight years and as professor in The Johns Hopkins School of Hygiene and Public Health for 18 years. These activities, plus my Army service during World War II have taken me to many areas of the world.

In this letter I shall (a) make certain general comments, (b) make specific comments on two subjects of which I have more than passing knowledge, and (c) offer certain suggestions in respect to the United States Government's participation in international health.

My general comments are as follows:

1. The world leadership of the United States places an obligation on our Government to engage in international health activities to the end that we may share in raising the health standards of the peoples of various other countries as well as our own.

2. International health activities can and should be an important adjunct to our foreign policy, for if properly carried out, such activities reach into the homes of countless millions of people.

3. The role of American private organizations in international health activities has been and is likely to continue to be one of relatively diminishing scope and effectiveness, because of the magnitude of the problem and the complex relationships between nations, currencies, and ideologies. There is a great role to be played, however, by indigenous citizen-supported foundations, which so far have been almost wholly an American development.

4. In their very nature, international medical research and health service programs are highly professional activities and should be largely (but not exclusively) directed by our best professional brains. Unfortunately, our Governmentally directed international health programs have been of limited effectiveness because (a) they were fragmented among too many different agencies, (b) they were not the immediate concern of topflight professional people, and (c) the vital role of research in such programs has until recently not been fully understood or accepted.

5. The program of our government in this field thus far has suffered from a hurry-up crash approach directed to short-range objectives. Hopefully, international health will be a continuing responsibility for many years.

My specific comments have to do with two rather unrelated facets of the overall problem:

1. Training of health personnel: A sound scientific and professional education cannot be acquired quickly. The greatest need in the health field of most underdeveloped countries is for competently trained scientific and health personnel. Human biology and the epidemiology of disease is largely the same everywhere and it makes little difference whether local professional leaders are trained in America or at home. Little is accomplished by a few months' visit of foreign scientists and teachers to this country or of visits of our people to foreign countries; this is just icing on the cake. Two developments are essential: (a) a long-range program aimed at the development of first class teachers and investigators, and (b) adjustment of aid programs to promote stability of key personnel in their home countries.

2. Collaboration of institutions in this country with those in other countries: For seven years I have been director of a laboratory for the study of treponemal diseases (syphilis, yaws and related conditions). It has been supported on a modest scale jointly by WHO and the Johns Hopkins University. The basic idea is that this laboratory will (a) conduct basic research on problems in this field, drawing materials from many places in the world, (b) serve as a focal point for consultation and advice in scientific and professional matters related

to the treponematoses, (c) provide opportunity for highly specialized training, and (d) collaborate in furnishing scientific and professional information to local areas in other countries.

I mention this development simply to suggest that it might serve as a useful pattern in furthering research on many problems in international health.

My suggestions in respect to the participation of the U.S. Government in international health are as follows:

1. Place the primary responsibility for the development of a program of international health on the National Institutes of Health of the Public Health Service, Department of Health, Education and Welfare, the responsibility to be exercised by a council similar to that which has operated the program under the Health Research Facilities Act.

Represented on the council should be medical scientists, physicians and other professional health personnel, educators, intelligent laymen with an interest in international affairs, and liaison members from the Department of State.

This general mechanism has proved to be a sound one in attracting topflight advisory personnel; large sums of public money have been put into research and other segments of the health fields without abuse and in a democratic manner. A program in international health should be important enough in its own right not to be lost in a larger program of economic or military aid; moreover, its maximum potential as a goodwill program can best be realized if it is semiautonomous, in my opinion.

2. Through appropriate legislation, make it possible for the aforementioned council to have some indirect way to monitor the uses of the funds recommended for various aspects of the program.

3. Encourage the development within the existing structure of the Public Health Service of a group of staff members interested in and competent in the field of international health. These would be the arms and legs, so to speak, of the brain in Washington.

4. Operate the program in such a way as not to bypass or undercut the World Health Organization. This, of course, will be difficult in the light of the suggestions made in 1, 2 and 3 above.

Sir, I thank you for your courtesy in asking me to comment on this interesting and important problem.

Sincerely yours,

THOMAS B. TURNER, M.D., *Dean of the Medical Faculty.*

UNIVERSITY OF KANSAS MEDICAL CENTER, SCHOOL OF MEDICINE,
Kansas City, Kansas, January 6, 1959.

DEAR SENATOR HUMPHREY: * * *

The following are the major comments that I have gathered for you from the University of Kansas School of Medicine:

(1) Considerable attention was called to the fact that the preliminary work plans specifically exclude any attempt to review the substantive quality of existing programs. There are some of us who find it difficult to make constructive comments without implying attempt to make improvements in existing programs although we appreciate full well why the statement is made.

(2) It was felt by some of us that a listing of well-recognized scientists in this country who were born and/or educated abroad might be of value to the committee insofar as they would be able to evaluate as well as facilitate scientific collaboration. I believe this fact cannot be underemphasized in that difficulties in dealing with shadings of meaning and national characteristics involve much more than scientific or language barriers.

(3) In some instances, remarks are made concerning the overlap of research endeavors. It is the opinion of many that a certain amount of overlap can scarcely be avoided and, indeed, that such overlap is necessary and desirable. In this regard, the following reference may be appropriate: Science, Nov. 28, 1958, editorial, page 128.

(4) It is the opinion of many of us that the exchange of scientists and teachers should be more easily accomplished. At the same time we feel that "whirlwind" visits to conferences and symposiums rarely lead to any real program. For this reason we suggest that visiting scientists from this country or from abroad spend no less than six months on an assignment.

(5) My own background is that of a scientist, specifically a pharmacologist. I have spoken in my official capacity as dean of this medical school to many visitors from overseas. In these conversations I have discussed the problems of need in their underdeveloped areas. I am convinced that foreign aid in the form of the underwriting of the cost of various antibiotics, vaccines, and drugs would be well spent. Further, it might even be possible to establish with foreign aid funds, either on a loan or a permanent grant basis, the necessary pharmaceutical industry to allow for a public health program of real merit in these underdeveloped countries.

May I take this opportunity to thank you for writing to this medical school? We are interested in the program. We stand ready to assist in any way that we can.

Sincerely yours,

W. CLARKE WESCOE, M.D.,
Dean of the Medical School and Director of the Medical Center.

LOUISIANA STATE UNIVERSITY,
New Orleans, February 20, 1959.

DEAR SENATOR HUMPHREY: This letter is in reply to your request for information about our international health activities.

First of all, I would like to comment that during the last five years, we have utilized all the resources available to broaden our educational and research program. This attitude has been bolstered by our conviction that the young men and women we are educating today in medicine should not be bound in their future careers by geographical thinking and practice. We also believe that both basic and applied research now have an integral part to play in the constant improvement of medical teaching. Therefore, we are exceedingly interested in this project of your subcommittee.

Since your work plan is so complete, we realize much of the following information may be duplicated from other sources, but because of the importance of your survey, this seems a risk well worth taking.

The Louisiana State University School of Medicine is located in New Orleans, which has often been termed a "natural gateway" to Central and South America. In addition, my personal interest has always been in tropical diseases.

For instance, in 1955 I received a fellowship to study research institutions throughout the entire free world interested in tropical medicine and to visit and lecture at hospitals and medical schools. In Durban, South Africa, I aided in the preliminary planning for the establishment of an Institute of Parasitology and, on my return to the United States, assisted them in obtaining a U.S. Public Health Service grant to finance the initial stages of the research program. The Institute has now become a reality and the foundation stones for the building were laid in ceremonies held on January 15, 1959. This six-month tour covered Europe, Africa, the Near and Far East, India, Australia, and New Zealand.

While our efforts have been largely directed toward tropical medicine as a world problem, our research program has by no means been confined to this area.

To cover tropical medicine first, however, we are enclosing seven copies of the three annual reports of the LSU Fellowship Program in Tropical Medicine and Parasitology for your specific and detailed information. This program was conducted from July 1955 through July 1958 under a grant of $120,000 from the China Medical Board of New York.

Because of the success of this program we have received an additional $250,000 grant covering a five-year period from the National Institute of Allergy and Infectious Diseases to continue and expand the fellowships, and this program began in September 1958.

The type of fellowship offered in the past is outlined in the annual reports. Under the new grant, a second type is also being offered which consists of six to twelve months devoted to practical experience and research at some institution in the tropics devoted to medical or parasitological research. This type of fellowship need not be limited to the American tropics.

To trace for you briefly the history of this fellowship program, in September 1951, the Tropical Medicine Study Section of the Division of Research Grants of the National Institutes of Health held a conference on research needs in tropical medicine. As a result of this conference, it was suggested that the opportunity for both faculty and students to study and conduct research in the tropics where

these diseases present a major health problem was essential since the incidence of tropical disease in the United States is limited, but its potential spread is not.

It was also recommended that a re-survey of the medical schools in the United States be made to determine the scope of current tropical medicine and parasitology teaching programs, and in 1953 such a study was completed. We are also enclosing a report of the results of this survey, entitled "The Status and Needs of Parasitology and Tropical Medicine in Medical Schools of the Continental United States in 1954."

Based upon such data, the LSU School of Medicine made application to the China Medical Board of New York for support of a fellowship program which would give practical field experience in the tropics to teachers in medical schools in the United States and Canada. This was granted and the detailed results are outlined in the enclosed three annual reports.

During the administration of this fellowship program, we established a close working relationship and a deeper and more personal understanding of the medical education and health problems of the Central American Republics.

Quite indirectly, this has resulted recently in two other unforeseen but quite gratifying results which, since they have their roots in the original program, should be mentioned briefly.

1. It was of assistance in the development of a new drug, dithiazanine, which is the first broad-spectrum anthelmintic to be developed. This drug is capable of killing four of the most common human intestinal parasites, pinworm (Enterobius), whipworm (Trichuris), threadworm (Strongyloides) and Ascaris (large roundworm). It is also somewhat effective against a fifth, hookworm. When you consider that 8 hundred million people in the world are infected with one or more of these parasites, the development of this one drug alone means a great step forward in the control of an international disease.

Much of the clinical work on dithiazanine, which was supervised by the LSU School of Medicine, was conducted at the State Colony and Training School in Pineville and the Charity and Veterans' Administration Hospitals in New Orleans.

However, it was in the San Juan de Dios Hospital in San Jose, Costa Rica, where we had already established a tropical medicine laboratory, that the most dramatic and comprehensive clinical studies on this drug were successfully carried out since the incidence and severity of these infections are far greater in the tropics than in the United States. The importance of this development was outlined by U.S. Ambassador Robert W. Woodward of the State Department on July 29, 1957.

2. Last year, the University Council of the Universidad de Costa Rica, having decided to establish a School of Medicine, requested the LSU School of Medicine to assist their present faculty in the training of young men who will ultimately assume their basic science teaching duties. We are also being asked to help arrange training programs for their clinical faculty members who will be studying modern teaching methods in the United States. It is anticipated that the International Cooperation Administration will provide financial assistance for these consultation services.

Our second major area of research which is pertinent to the information you request is in our study on "The Natural History of Atherosclerosis". This work began in our department of pathology about five years ago. It has since spread to other geographical areas and has now become a comprehensive research program in cooperation with medical schools and hospitals in Guatemala, Costa Rica, Peru, Colombia, Jamaica, Puerto Rico, England, Spain, South Africa, and Formosa.

During this time, over 5,000 aortas from autopsied cases have been collected for study in a gigantic effort to ascertain exactly at what point the irreversible changes occur around the margins of early fatty streaks which ultimately result in atherosclerosis. If these could be reversed, most of the subsequent diseases related to atherosclerosis could be prevented or retarded. These specimens include all ages, races, and both sexes with deaths due to both natural and accidental causes and are not limited to deaths from heart disease.

This research is supported from multiple sources, including Federal, private, and volunteer agencies. If a breakdown of the exact sources and amounts of this multiple support would be of benefit, we will be glad to supply this information upon request.

In addition to aortas, we are now collecting coronary arteries for study and have recently started a collection of cerebral and peripheral arteries.

We are attaching a statistical summary of this collaborative atherosclerosis research program for your further information.

Many members of our faculty spend their sabbatical leaves in other medical schools abroad. For example, during the last two years alone, the head of the department of physiology served as Visiting Professor in the University of Indonesia Medical School at Djakarta; an associate professor of pathology served as Visiting Professor in the Medical School in Cali, Colombia; our professor of medicine, who is also associate dean, spent three months as a consultant in internal medicine in Taiwan, Formosa, and, at the present time, the head of the department of pharmacology is engaged in six months study and research in Oxford, England.

A professor of anatomy returned at the beginning of the current academic year from a six month tour which covered 154 electron microscope laboratories in 22 European countries, including Russia. He has since been joined at LSU by a Visiting Professor from Helsinki, Finland, whose work on the development of a new electron microscope will continue in our laboratories.

* * * * * * *

If there is further specific or general information which may be of help to you later on, please be assured that your requests will be taken care of promptly.

With all best wishes for your success, I am

Very truly yours,

WILLIAM W. FRYE, M.D., *Dean.*

The natural history of atherosclerosis

	Aortas	Coronary arteries	Cerebral and peripheral
New Orleans	1,800	600	200
Guatemala	600	400	----------
Costa Rica	400	200	----------
Peru (Lima and Arequipa)	300	200	----------
Colombia (Cali and Bogotá)	600	400	----------
Jamaica	400	200	----------
Puerto Rico	400	200	----------
England	200	50	----------
Spain	100	----------	----------
South Africa (Durban)	300	100	----------
Formosa (Taipei)	(1)	(1)	----------
Total	5,100	2,350	200

[1] Just started.

NOTE.—Compiled Feb. 18, 1959.

THE STATUS AND NEEDS OF PARASITOLOGY AND TROPICAL MEDICINE IN MEDICAL SCHOOLS OF THE CONTINENTAL UNITED STATES IN 1954

The results of the survey of the teaching of parasitology and tropical medicine in the 81 continental United States medical schools made at the request of the Parasitology and Tropical Medicine Study Section of the Division of Research Grants of the National Institutes of Health in 1954 are as follows.

Parasitology.—Only one school gives no instruction; 20 percent devote less than 30 hours to it; 54 percent devote 30 to 60 hours; 24 percent devote over 60 hours to it. The average number of hours of instruction is 47, as compared with 53 hours in 1945 when the last survey was made (Meleney, Soule, and Kostmayer, Jour. Assoc. Amer. Med. Coll., 21: 193–208, July 1946). The total number of instructors listed as participating in the teaching of parasitology is 193, which is practically equal to the number in 1945. Of these instructors 52 percent hold a Ph. D. or Sc. D. degree, 34 percent an M.D. degree, and 14 percent a lower degree. The number of instructors listed per school varies from none in four schools to seven in one school, 54 percent having one or two instructors. Parasitology is listed as a separate course in about one-half of the schools, as a part of microbiology in one-fourth, as a part of clinical pathology in one-eighth, and in a combination of departments in the remainder. It is taught in the second year in three-fourths of the schools. These data indicate that parasitology is allotted at least the minimum (30) hours for adequate instruction in about three-fourths of our medical schools.

Tropical medicine.—This subject has largely lost its identity as a separate area of instruction since 1945. At that time the survey showed that there had

been a great boom in the subject during World War II. At that time the average number of hours devoted to it in distinction from parasitology was 24. Of the fifty-eight 4-year schools which reported, about one-fourth devoted 30 hours or more to it. The number of instructors in tropical medicine in these schools was 151. In the present survey about one-third of the seventy-three 4-year schools reported no instruction in tropical medicine, and only one-third reported any specific number of hours of instruction. One-half of these schools devote only 2 to 8 hours to it and only one devotes more than 24 hours, which was the average in 1945. Only one-half of the schools listed the names of persons participating in teaching tropical medicine and only one-half of these listed more than one instructor. The total number of instructors listed was 63 as compared with 151 in 1945. Of these instructors 78 percent hold the M.D. degree, 22 percent the Ph. D. or Sc. D. degree.

Research.—One-half of the 81 schools reported research being conducted currently in parasitology or tropical medicine. A total of 106 projects was listed, of which 86 were in parasitology, 20 in other aspects of tropical medicine. The average number of projects in the 40 schools conducting research was 2.6 with a range from 1 to 10 projects.

Fellowships.—At only 12 schools had instructors held fellowships for research or study abroad in parasitology or tropical medicine in the past 5 years. Ten schools each listed one fellowship, one listed two, and one listed more than three. Four schools each reported one failure to obtain a research, study, or travel grant during the past 5 years, one school reported two such failures, and one reported three.

Needs.—In response to a question as to needs in parasitology and tropical medicine, funds were the commonest need. Nineteen schools stated that they need funds for well-trained personnel, 10 for equipment, 8 for teaching material, 7 for fellowships for staff or graduate students, 6 for experience in the tropics, 4 for research, 1 for building up our relations with the Pacific area and Mexico.

In order to ascertain more accurately the qualifications and experience of the present teachers of parasitology and their degree of interest in obtaining practical experience in the tropics, a questionnaire was sent in December 1954 to each one of those listed in the first survey. The omission of co-opted instructors from other institutions or agencies reduced the number of persons to whom the questionnaire was sent to 173. Replies were received from 120. These represent 66 (87 percent) of the 76 schools who listed any instructors in parasitology. Of the 120 persons who replied, 77 (64 percent) expressed a desire for a 2-months fellowship to obtain practical experience in parasitology and tropical medicine in Latin America. The affirmative replies came from persons in 51 (80 percent) of the medical schools from which replies were received.

An analysis of the qualifications and experience of the instructors who desire such a fellowship is as follows:

	Number	Percent		Number	Percent
Academic Degree:			Practical Experience in Parasitology:		
Ph. D	40	53	Civilian:		
Sc. D	7	9	In U.S.A	41	53
M.D	25	35	In tropics	7	9
Lower	4	5	Both	17	22
Academic Rank:			None	12	16
Professor	13	17	Military:		
Associate Professor	26	34	In U.S.A	11	14
Assistant Professor	23	30	In tropics	12	16
Associate or Instructor	14	18	Both	3	4
Academic Training in Parasitology:			None	51	66
Yes with degree	43	56	No experience in Parasitology in the tropics	44	57
Yes without degree	22	29	Have conducted research in Parasitology	49	64
None	12	16			

In response to the questions as to preference of the year or years in which a fellowship would be acceptable, 23 gave 1955, 44 gave 1956, and 19 gave 1957 or later. The large total is due to duplications. Nine expressed no preference. As to choice of months, about twice as many specified June, July, and August as other months, but each month was included, the lowest being December with eight possibilities. Nine had no preference.

It is obvious from this analysis that there is a strong desire for fellowships to obtain practical experience in parasitology and tropical medicine in the tropics among instructors in the U.S. medical schools, and that a large proportion of those participating in the teaching of this field of medicine have not had any experience in areas where parasitic and other tropical diseases are prevalent.

LOYOLA UNIVERSITY,
STRITCH SCHOOL OF MEDICINE,
Chicago, Ill., July 22, 1959.

DEAR SENATOR HUMPHREY: The Stritch School of Medicine participates in a modest way in the training of foreign physicians and scientists through the instrumentalities of resident-training programs for clinical training and programs leading to the M.S. and Ph. D. degrees in the basic sciences: anatomy, physiology, biochemistry, pharmacology, and microbiology. An occasional foreign candidate is accepted for medical school. Some of the foreign students in our training programs enter under the Exchange Visitors Program and will return to their native lands. Others hope to obtain citizenship and to remain in this country. The latter will make no contribution to their own countries. Exchange visitors are to be preferred.

An occasional faculty member participates in a research program in a foreign medical school. Several present papers at international meetings.

Since medical education and research are intimately related and since a large volume of medical research in the United States is carried on by medical school faculties, it is my own opinion that priority at the international level might well be given to the support and expansion of the medical education programs which are the concern of the International Cooperation Administration. I believe it is highly important to foster medical research in foreign countries through the development of competent research workers among the nationals of the various countries. Dr. Sigerist, whom you quote on page 77 of Senate Report #160, 86th Congress, First Session, depicts three successive stages in the relation to medicine of every country which has been opened to western civilization. In the first stage most of the physicians are sent abroad to study; in the second stage the training is undertaken at home; in the final stage research work is introduced and pursued with greater and greater intensity. Hence it seems to me that aid in developing medical schools in the underdeveloped countries will help not only to provide a much higher level of medical care but also to lay the groundwork for the recruitment of research workers from the native population. This is apparently what the International Cooperation Administration is attempting to do when it subsidizes exchange of segments of the faculty of a foreign medical school with similar segments of a faculty of an American medical school. More American medical schools might be encouraged to take under their wings additional struggling, but promising, foreign medical schools.

To reiterate, since funds for medical research in this country are utilized most effectively by medical schools, in my opinion the best way to foster international research is by building up the faculties of existing medical schools in under-developed countries. Maybe the United States might even undertake to establish new medical schools where the need is greatest and to staff them with American scientists and clinicians. If the latter course is chosen, to avoid the implication of any sort of colonization, provision must be made for the replacement as soon as possible of the Americans by members of the indigenous population.

I agree with those who believe that medicine may well prove to be an instrument of foreign policy. Provided the pressing problems of the American medical schools and research institutions are not disregarded, endeavors in the areas covered by your subcommittee are to be commended.

Sincerely yours,

JOHN F. SHEEHAN, M.D., *Dean.*

MARQUETTE UNIVERSITY SCHOOL OF MEDICINE,
Milwaukee, Wis., December 2, 1958.

DEAR SENATOR HUMPHREY: The Study of International Health Programs is certainly a worthwhile project. The United States has become a world leader in medical education and medical research—while at the same time, our applica-

tion of this knowledge to the good of other people in the world has not been well coordinated and promoted. Anything that can be done to improve and augment the participation of Americans in the promotion of health among all peoples of the world will be truly worthwhile.

I would like to point out that a survey of health services performed by religious groups throughout the world is a most important part of the study. Very often the heroic labors of medical missionaries are overlooked in official studies because somehow their work is not statistically acceptable. Such an outstanding health program as the Maryknoll Clinic in Pusan, Korea, may not appear in any report because of religious sponsorship or because reports of the work done there may not find their way into the proper official channels.

Sincerely,

JOHN S. HIRSCHBOECK, M.D., *Dean.*

UNIVERSITY OF MIAMI,
SCHOOL OF MEDICINE,
Coral Gables, Fla., November 29, 1958.

DEAR SENATOR HUMPHREY: I have studied with interest the outline of the proposed activities of your subcommittee as they relate to international medical research and service programs. May I say this undertaking is an ambitious one but nonetheless a healthy and quite valuable one. You have indicated the findings of your study will be made available to those interested in such activities as will be studied, and this is good for there is a need for some compilation of information which will show the various interrelationships of programs now in effect. There is little I can say by way of criticism of the work your subcommittee has laid out for itself. I would applaud the basic aspects of the several programs now in operation and which will be investigated by your group. I would hope that once a clear picture is put together there may be the incentive for expansion of a number of the programs.

In looking at only one facet of the proposed study, that of the contributions of private institutions and groups to the overall activity of medical research and service as these take on an international flavor, I would ask your indulgence to permit me to describe some activities in our own School of Medicine.

Since the establishment of this school in 1952, it has been and continues to be a philosophy of its immediate administration and faculty supported by the administration of its parent institution, the University of Miami, that one of the greatest incentives for solidification of friendships between the peoples of nations is through contributions to the betterment of health of those peoples. Because of its geographic location, the university and its School of Medicine have turned attention to the Latin Americas, and the Central America and Caribbean areas to make certain contributions as a private enterprise. Although these contributions have been somewhat limited because of restricted financial resources, it is encouraging that they expand year by year. It is our hope that the implementation and operation of programs in medical research and service may develop friendships in the southern hemisphere which will contribute to the overall improvement of diplomatic stature of the United States in this hemisphere.

Our activities with our neighbors in the areas mentioned vary in level of arrangements from relationships with governmental agencies, to educational institutions, to industrial concerns, to individuals. A few of these are presented for your information.

1. A facility of the School of Medicine is the virus diagnostic and research laboratories which are supported in part by the School of Medicine and in part by the Variety Children's Hospital of Miami. The director of the laboratories, through arrangements with the Ministries of Health of the British Honduras and Santa Maria, and with the College of the West Indies at Kingston, Jamaica, furnishes services in the diagnosis of virus diseases and collaborates in the conduct of special research projects. Also, by arrangement with the College of the West Indies, graduate students in bacteriology of that institution may spend from a few weeks to several months in our virus laboratories learning special technics of handling the viruses.

The parasitology laboratory of our school furnishes similar services to the British Honduras and to Costa Rica, and collaborates with individuals from these countries in the conduct of research projects. An arrangement just now coming into operation, and supported by a grant from the National Institutes of Health, will permit a number of the graduate students in our own program of

parasitology to spend a few weeks at a time in Costa Rica and in Cuba obtaining first-hand information in diseases seldom seen in this country.

2. Once or twice each year, a member of our Department of Pathology spends a week or ten days in Aruba and Curacao, supported by the Lago Oil Company and by the United Fruit Company. It is his function to hold symposia with the physicians employed by these concerns in a review of newer aspects of medicine and pathology.

3. Each year, we have several physicians from foreign countries who spend a year in one of our departments as "fellows." These men, usually supported by their governments, are trainees in various fields of medicine. We have had physicians from Turkey, Greece, Cuba, and Japan with us.

4. Through an arrangement worked out between our School of Medicine and that of the University of Habana, two special symposia in occupational medicine have been held in Miami. These have been financed completely by resources found by our School of Medicine. They are unique, we believe, in that to encourage attendance by physicians from the Spanish speaking countries, we have presented the entire symposia in the Spanish language. Attendance at the two sessions have included men from several of the South American countries, Mexico, and Spain. It is planned that such sessions will be repeated each two years.

5. The university has encouraged the School of Medicine to extend invitations to outstanding scientists in medicine of the Latin-Americas and of Central America to spend a week at the School of Medicine. These men participate in the activities of whatever department of the school extends the invitation. They also meet with the faculty and student body of the school to describe programs in their own countries. This program is in its second year, and during the past year, the school was honored by the presence of the president of the University of Panama, a surgeon; and by the director of the San Juan de Dios Hospital of Costa Rica, a parasitologist. For the present year, two men will be brought to the school, one of these being the Acting Minister of Health of British Honduras, and the other being Professor of Physiology of the Medical School at Buenos Aires, Argentina.

Again, let me say that your subcommittee will be rendering a very important service to all of us who are interested in the medical programs which exist between our country and others. If there is any way in which I or the faculty of our school may assist in this undertaking, we will be happy to do so at your request.

Sincerely yours,

HOMER F. MARSH, Ph.D., *Dean.*

THE J. HILLIS MILLER HEALTH CENTER,
UNIVERSITY OF FLORIDA,
Gainesville, December 8, 1958.

DEAR SENATOR HUMPHREY: Dean George T. Harrell of the University of Florida College of Medicine has given me the opportunity to look over the project to be undertaken by the Subcommittee on Reorganization and International Oraganizations.

At the present time, we have no specific observations or suggestions to pass along. Although it might not come under the scope of the committee's project as you have outlined it, all of us have been very impressed with the depth of understanding which can come from personal contacts between medical scientists of the varied countries. Most particularly do we feel the value of interchange on a person-to-person basis between ourselves and certain scientists of the "iron curtain" countries. On strictly scientific medical levels we have found that no real "iron curtain" exists—most of the facts of scientific and medical knowledge transcend political, ethnic and geographic boundaries. I am certain that you will find that a majority of the younger medical scientists in this country feel as I do—that much more effort and money could profitably be spent to increase and encourage person-to-person interchange between the younger scientists currently active in medical research in our country and those of other countries—particularly those with which we have strong political differences. Such interchange should not only benefit international medical science but possibly create a "locus minoris resistentiae" in the otherwise very effective barriers to mutual understanding—which might be contagious.

I would invite your attention to some excellent biological investigation with medical implications going on at the Czechoslovak Academy of Sciences in Prague where I am to visit in May. A number of investigators there are doing very exciting work which has implications in many fields of biology and bearing upon medical science. I did not find this institute mentioned in your committee print and think that they deserve recognition.

Respectfully,

RICHARD T. SMITH, M.D.,
Professor and Chairman.

UNIVERSITY OF MINNESOTA,
COLLEGE OF MEDICAL SCIENCES,
Minneapolis, October 29, 1958.

DEAR DEAN HOWARD: In accordance with your request, we are submitting some information to you relative to the contribution which the school of public health is making toward international health. You may wish to use some of this information in preparing your reply to Senator Hubert Humphrey.

Education and training of foreign students.—The largest single contribution which the school of public health makes to the cause of international health is in training of professional public health personnel for service in the health ministries of their respective countries. Each year we receive under various auspices, ICA, WHO, and private foundations, students from a number of foreign countries. Our staff has always devoted special attention to these students inasmuch as it is a well-defined philosophy of the faculty of the school of public health that public health work in most countries can be best done by nationals of those countries. We do not speak disparagingly of the contribution which Americans make in serving abroad. However, the ultimate solution to public health problems of any country can be solved only by nationals of that country. For that reason, we are particularly interested in providing training wherever possible to professional people who are returning to their own countries for work in professional public health. We have shown in the attached tables the numbers of foreign students in the school of public health during the last 4 academic years. You will note that various professional groups are included: health officers, veterinarians, engineers, sanitarians, health educators, public health nurses (at the graduate level), hospital administrators, and public health nurses (undergraduate program).

In the last 4 years these students have come from the following 36 countries: Argentina, Bolivia, Brazil, British West Indies, Canada, Ceylon, Chile, Colombia, Egypt, El Salvador, Ecuador, Finland, India, Indonesia, Iran, Iraq, Israel, Jamaica, Japan, Jordan, Korea, Mexico, Netherlands New Zealand, Norway, Pakistan, Peru, the Philippines, Sweden, Switzerland, Taiwan, Tanganyika, Thailand, Turkey, Uruguay, and Yugoslavia. Thus, in the last 4 years we have had students from 36 different foreign countries. If we were to extend our records back to the end of World War II the number of foreign countries would be in excess of 50.

As a result of this training, alumni of the University of Minnesota School of Public Health are found in many places in the world. As an example, at a seminar on environmental sanitation held 3 years ago in the Middle East, 8 of the 51 participants were former students of the University of Minnesota School of Public Health. Of these eight, two were U.S. citizens working in foreign fields and the others were nationals of Mideastern countries. A ninth participant in the seminar was a member of the faculty of the University of Minnesota School of Public Health.

Visits from foreign visitors.—Because of its great interest in the international health field, the school of public health receives many foreign visitors who are interested in the training given at the University of Minnesota. These visitors include government officials of many foreign countries as well as faculty members of foreign schools of public health and of medical schools. These visits place demands upon the faculty's time inasmuch as it is a practice to provide consultation to these distinguished foreign visitors.

Research.—Just as in other fields of medical research, research done by the school of public health contributes to the betterment of the international health by adding to general knowledge. Some of the research done by the school of public health has immediate and direct foreign application. Typical of this type of research is that done by Dr. Ancel Keys and his group in the laboratory of physiological hygiene. For instance, currently Dr. Keys is working on the

problem of atherosclerosis and the current scene of his research work is in Yugoslavia where he is heading a team of 20 from 6 different countries. Dr. Ancel Keys and his associates, Dr. Josef Brozek, Dr. Henry Taylor, Dr. Francisco Grande, Dr. Joseph Anderson, and Dr. Henry Blackburn have carried on a large amount of work concerned with coronary heart disease in many places of the world and in most cases this work has been done in cooperation with foreign scientists. Another example of work of faculty members being used immediately on a global basis is the work of Dr. Gaylord W. Anderson, the director of the school. Dr. Anderson is a member of the committee of the American Public Health Association which periodically publishes "The Handbook of Communicable Disease Control." Each new edition of this handbook is almost immediately translated and published in a number of foreign languages for worldwide dissemination.

Cooperation with the ICA.—In addition to training of students who come to the United States under ICA sponsorship, members of the staff of the school of public health have served as consultants to the ICA and its predecessor organizations on some of its projects. As an example, Dr. Gaylord W. Anderson, director and Mayo professor, has visited schools of public health in South America on two occasions as a consultant for this unit of the U.S. Government. Mr. Herbert Bosch, professor of public health engineering, is a consultant to the ICA on its sanitary engineering problems and has done an extensive amount of work for that organization in connection with developing of sanitary engineering training in 13 universities of Brazil. For several years, Dr. Anderson has served as a general consultant to the FOA (a predecessor of ICA) on health matters.

Cooperation with WHO and PASB.—Since the Pan American Sanitary Bureau serves as a regional office for the Americas for WHO, these two organizations are included in the same paragraph. Faculty members of the school of public health have been very active in assistance to WHO and PASB. As you remember, Dr. Anderson was extremely active in the preparations for a very successful World Health Assembly held in Minneapolis in May and June of 1958. He was a member of the local steering committee which had much to do with the planning and he was chairman of the welcoming committee, whose work was so favorably commented upon by foreign visitors. During the World Health Assembly, Dr. Anderson had the cooperation of the entire faculty of the school of public health and a tremendous amount of faculty effort was devoted to helping make this first meeting of the World Health Assembly in the United States a success.

The following faculty members are members of expert panels of the World Health Organization: Dr. Gaylord W. Anderson, Mayo professor and director, member of the Expert Panel on Professional Education; Mr. Herbert Bosch, professor of public health engineering, member of the Expert Panel on Environmental Sanitation (Mr. Bosch was the first director of the Division of Environmental Sanitation of the World Health Organization); Dr. Ruth E. Grout, professor of public health and education, member of the Expert Panel on Health Education; Dr. Ancel Keys, professor and director of the laboratory of physiological hygiene, now a member of the Expert Panel on Nutrition.

Short-time foreign consultations.—Members of the faculty of the school of public health have engaged from time to time under sponsorships of such organizations as WHO, PASB, ICA and private foundations and have acted as consultants to foreign governments and institutions and in connection with these consultations have made visits to foreign countries. As an example, Dr. Anderson has acted as consultant in Brazil, Chile, Egypt, and Iran. Currently, under the auspices of WHO he is visiting the All-India Institute of Public Health in Calcutta, India, on a consultationship of several months. Dr. Keys, director of the laboratory of physiological hygiene, has engaged in foreign work and consultation in a number of countries including Italy, Yugoslavia, Finland, Spain, and the Union of South Africa. Dr. Grout, professor of health education, has acted on four different occasions as a consultant to the WHO regional office for Europe. Mr. Bosch, professor of public health engineering, has acted as a consultant to the WHO regional office for Europe, WHO regional office for the eastern Mediterranean, and under WHO sponsorship to the Governments of Yugoslavia, Finland, and Japan. His work as consultant to ICA has been pointed out above.

Cooperative work in developing hospital administration in Chile.—In cooperation with the Kellogg Foundation and the School of Public Health of the University of Chile, the School of Public Health of the University of Minnesota is assisting in strengthening the program in hospital administration at the University of

Chile School of Public Health. Under this program, Mr. James Hamilton, professor and director of the course in hospital administration, has visited Chile on a short-time consultantship and Mr. James Stephan, professor of hospital administration, spent the summer of 1958 assisting in the teaching at the school of public health in Santiago, Chile. Also, the director of the course at the University of Chile has spent several months at our school of public health observing teaching procedures and conferring with the staff of the course in hospital administration. It is proposed that another senior faculty member of the course in hospital administration will spend 3 months next year at the University of Chile.

Foreign travel by faculty members.—In order to prepare better our faculty members for teaching of foreign students, three of them have been given leaves to travel in South America in order that they may be better acquainted with the problems of the foreign student who comes to the school of public health. These three include Mr. Theodore A. Olson, professor of sanitary biology, Miss Evelyn Sanburn, assistant professor of public health nursing, and Dr. Helen Wallace, professor of maternal and child health. In all three of these cases, the travel was accomplished under stipends from the World Health Organization.

The above, while not all inclusive, is a listing of the more important of the contributions which the school of public health is making to international health. You will note that we have not included the large amount of effort which Dr. Gaylord W. Anderson has devoted to the Korean project. We assume that you will include a description of the contract work in Korea in the material prepared by the medical school.

Sincerely yours,

STEWART C. THOMSON, M.D.,
Professor and Associate Director, School of Public Health.

TABLE I

FOREIGN STUDENTS ENROLLED IN THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF MINNESOTA, BY PROFESSIONAL BACKGROUND

	1958–59	1957–58	1956–57	1955–56	Total
Health officers and veterinarians [1]	8	6	8	9	31
Engineers and sanitarians	7	10	4	5	26
Health educators and miscellaneous	7	5	3	4	19
Nurses	3	1	3	3	10
Hospital administrators	1	3	2	1	7
Nurses in undergraduate program	5	7	8	2	22
Total	31	32	28	24	115

[1] Primarily physicians but includes an occasional veterinarian.

UNIVERSITY OF MINNESOTA MEDICAL SCHOOL,
Minneapolis, October 31, 1958.

MY DEAR SENATOR HUMPHREY: Some time back you asked for information concerning what might best be described as the international activities and influences of the University of Minnesota College of Medical Sciences. I am happy now to submit to you some information which I hope will be of help, as well as of interest to you.

As I indicated in an earlier tentative reply, the School of Public Health, which is a constituent unit of the College of Medical Sciences, is that part of our college which is most directly and intimately related to the international aspects of health. I am, therefore, enclosing a rather comprehensive letter, graciously prepared by Dr. Stewart Thomson, Professor and Associate Director of the School of Public Health, which details a good many of the activities of the school.

There are, however, other activities which have an international impact and which, therefore, merit at least a brief mention. At the present time, for example, there are more than 60 young men and young women from countries the world over taking graduate training in various clinical and basic science departments of the Medical School. They will thus acquire specialized knowledge

and technical skill which they will carry home with them upon completion of their respective periods of training. Thus, in this way we have a wide influence on medicine abroad.

Research, of course, speaks with an international tongue. Many investigations carried out by members of our faculty have influenced the theory and practices of medicine and surgery throughout the entire world. Please let me cite just a few of these. The strides made by members of our faculty in the development of surgical techniques or the correction of various heart defects represent perhaps the most dramatic instance of investigation with an international impact. Less dramatic, but equally important, are the studies of Dr. Wesley Spink and his associates on brucellosis (undulant fever or Bang's disease), the work of Dr. J. T. Syverton and his associates in our Department of Bacteriology and Immunology, which has been of importance in the development of an oral vaccine against poliomyelitis, and the studies of Dr. Cecil Watson on the metabolism of bile and blood pigments. There are literally hundreds of other projects and investigations which might be mentioned with equal appropriateness. If you are interested in a more exhaustive list of these, I shall be happy to get it together for you. I have merely tried to point out, in a very general way, that the influence of research work is felt far beyond the borders of the state in which it is carried out.

If you do wish any further information concerning this matter, or I could be of any help to you in any other way, I hope that you will feel free to call upon me.

With every good personal wish, I am,

Sincerely yours,

ROBERT B. HOWARD, M.D., *Dean.*

NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER,
New York, N.Y., May 18, 1959.

DEAR SIR: In reply to your letter of May 5th:

(1) I think that every effort should be made by the U.S. Government to encourage international cooperation in medical research.

(2) We have two important programs of medical education with international ramifications:

(*a*) in the Post-Graduate Medical School there is a special year long course for foreign trained physicians who wish to take licensing examinations to practice in the United States.

(*b*) in the Institute of Physical Medicine and Rehabilitation there is an extensive program for foreign physician training. Dr. Howard Rusk, the director, has, I believe, already written to you about this.

Yours sincerely,

DONAL SHEEHAN, M.D., *Dean.*

STATE UNIVERSITY OF NEW YORK,
DOWNSTATE MEDICAL CENTER,
Brooklyn, N.Y., December 1, 1958.

DEAR SENATOR HUMPHREY: Your invitation to pass along to you my reactions to the work plan of the Subcommittee on Reorganization and International Organizations in its consideration of S.R. 347, 85th Congress is much appreciated. I have had a deep interest in the international aspects of health, particularly in the Far East for a number of years.

My original interest arose when in 1951 the Washington University School of Medicine, of which I was then dean, undertook the first contract with the Economic Cooperation Administration to assist the two medical schools in Bangkok, Thailand, in the development of their program of medical education. In the late winter of 1952, I visited the schools in Bangkok for 3 weeks and spent a few days at many of the other medical schools in the Far East. This contract was continued until 1954. In 1955, I was elected a trustee of the China Medical Board of New York, an American foundation established in the early 1920's by Mr. John D. Rockefeller to assist medical education in China. Since the Communists took over China in 1948 the Board has given assistance to the other countries of the Far East, but none to the mainland of China. In 1957 the Board sent me to the Far East to visit the same schools and attempt to evaluate what had happened in the 5-year period since my first visit in 1952.

In the fall of 1957, I was designated as chairman of the Committee on International Relations in Medical Education of the Association of American Medical Colleges, which committee you have alluded to in your letter to me.

I am sure you realize I cannot speak for the college of which I am currently the president and dean, nor for the members and trustees of the China Medical Board of New York, nor for the committee of the Association of American Medical Colleges, but I do want to give you my personal thoughts based on the background I have outlined.

First, let me say I am convinced that international cooperation and assistance in fields of preservation of health and of food production can make a larger contribution to the continuation of our way of life and of the western world than any other thing we can do. Few people will seek another way of life, i.e., the communistic way, if they have good health and adequate food for themselves and their children. I am not qualified to speak on the food aspect of this combination, but I do have some thoughts about the health aspect.

As I see it, the essential parts of a program of international cooperation and assistance in the health field are:

A. Training of personnel;
B. Support of research;
C. Provision of health care;
D. Improvement of public health;
E. Adequate facilities and equipment.

In the part on the training of personnel there are at least two subparts:

1. Training in the oversea nation;
2. Training in the United States.

It is my belief that, with the exception of few individuals, the basic training of the physician, the dentist, the nurse, and others should be provided in the country in which the individual will practice, that is, his native country. The reason for this is that the basic training is closely related to the culture and society of the nation and cannot be separated.

With this concept, it follows that most international cooperation and assistance at the undergraduate level must be oriented around the assignment of visiting professors to those countries with a shortage of faculty members. There is this shortage in many nations of the Far East which were colonial possessions and had few natives trained in the prewar years. Many agencies including the ICA have made a notable contribution in this area. The assistance has in general taken three forms.

One form is a formal program of affiliation between an American school and a school overseas. A successful example of this is the current ICA program of the University of California and the National University of Indonesia at Djakarta under the direction of Dr. Scott Smyth and Dr. Edwin Schultz. For several years about 10 American faculty members have served in Djakarta and materially aided the school there.

The second form is the recruitment of individual faculty members in the United States at the request of an oversea school by governmental or private agencies for service for from one month to a year. Both the ICA and private agencies such as the China Medical Board of New York have made significant contributions of this type.

The third form is the intensive approach by a team of physicians who tour several countries with a stay in each of one or two weeks. The program of the Unitarian Service Organization has been outstanding in this type of assistance.

It is after the basic training in medicine, dentistry, nursing, etc. that advanced observation or training in the United States can be most useful. Cooperation and assistance may take two forms:

1. Short-term periods for observation in the States of educational programs and methods by responsible officials and faculty members of oversea schools;

2. Longer term periods of study for younger men and women in training as physicians and faculty members.

The first of these has presented few problems. Both the ICA and private agencies have made it possible for many to come to the United States for from one to three months.

However, the second form, the training of younger men, has presented serious problems. Most of these problems revolve about the possible conflicts of two basic concepts: that America shall remain a land of opportunity, and that all

who provide or participate in the health care of the American people shall be judged by the same standards whether they are educated in the States or overseas.

Advanced training in clinical medicine is inseparable from practice, and hence, those in training must practice under supervision. The great demand for training opportunities by those from overseas has come during the postwar period when our own hospital facilities were being expanded. The result was that the oversea graduates were placed as interns and residents in our hospitals. It soon became apparent that some of these did not have the same basic knowledge and skills which we require of our own graduates for appointment in the same positions.

In the late 40's the Association of American Medical Colleges and the American Medical Association attempted to assure a high quality of medical care by issuing a list of oversea schools whose graduates could be considered by the hospitals on the same basis as those of American schools. It soon became apparent this was not feasible and in fact was undesirable. A new program of evaluation of the individual rather than of the school has now been initiated in the form of the Educational Council for Foreign Medical Graduates. This council administers an examination in all parts of the world and certifies those who have passed it on the same basis as graduates of American schools.

With full support of the Educational Council by hospitals, the medical profession, the medical colleges, and the United States Government, I believe we can look forward to a full realization of the opportunities by all who are worthy of them.

In the support of research through international cooperation and assistance, I believe there are several important aspects.

1. Support of senior investigators from oversea nations to spend up to a year in the States pursuing independent research or collaborative research with an American;

2. Award of research fellowships to younger individuals for training in research in the States and then return to their own country:

3. Award of research grants to qualified investigators in all countries of the world;

4. Support of international meetings of investigators.

Something has been done in each of these aspects by both the government and private agencies. I am sure more can be done, but any program of expansion should be carefully planned and programmed. If this is not done, we will end up with much quantity and little quality.

In an expanded program I would urge one basic principle: that the administration and advisory bodies be the same as for comparable programs in this country. It seems to me that if we have one group making awards, for example, in cancer research in this country and another for cancer research overseas, there will soon be chaos. A second basic principle should be that each award and grant will be made with the same criteria of scientific merit as are applied to similar awards and grants in this country. I realize this may be difficult since at times there are site visits made to a laboratory before a grant is made, but if these can not be made, then some adequate substitute must be found.

Strong support of international meetings of investigators by award of grants for travel and for the expenses of the meetings is most important from the standpoint both of scientific communication and of international good will and cooperation. The more people from different nations know each other, the fewer differences there are between them and it is in the field of medicine there is now the greatest impetus to international cooperation.

In the field of provision of medical care there is little which can be done in relation to need. In many countries of the world the ratio of physicians to population is so low that anything we could do would hardly have any appreciable effect. Hence, the emphasis at present on cooperation and assistance in the training of more and more personnel for the future.

In my opinion the best contribution in the field of health care has been and can be made by the medical missionary activities. For example, the Seventh Day Adventists have model hospitals in many cities of the Far East and other denominations have other installations. The Presbyterian group at Chiengmai, Thailand, has for over 50 years made a great contribution.

It is in the field of public health control measures that the greatest immediate contribution can be made in international cooperation and assistance. The record of collaboration between the nations of South America and the Rocke-

feller Foundation in the control of yellow fever and more recently between the nations of Southeast Asia and the ICA in the control of malaria in urban areas, to mention only two examples, has been remarkable. Much remains to be done with many diseases such as typhoid, dysentery, amebiasis, hookworm, and others. In South America the Pan American Sanitary Organization, and in other areas the World Health Organization have done significant work in this same field. I would urge expanded programs by ICA wherever the situation indicates worthwhile results.

However, in all ICA programs in health education, medical research, health care, and public health control measures, I would urge greater participation at the policy level by those skilled in the fields than there has been in the past. Each field and area has peculiar problems and what is applicable in agriculture or flood control or secondary education is not necessarily applicable to medicine. I am not skilled in administration, but I have wondered why all programs in the health area are not under the USPHS, instead of as now, when some are there and others are in ICA.

I also feel strongly that as much as possible of any program of international cooperation and assistance should be done by contract through private agencies. Whether we like it or not, many people are suspicious of the objectives of the Government of the United States when they deal directly with it, but when the relation is with, say, an American university, the attitude is different. For example, one of the most effective and respected groups in Saigon, Vietnam, is the police, trained under contract of ICA with Michigan State University.

The final topic I wish to discuss is the matter of facilities and equipment. Let me cite the example of Vietnam to illustrate why I think it is proper to have programs of international cooperation and assistance in this area. The one medical school of French Indochina was in Hanoi. After the partition of the Geneva Conference, about half the faculty came south to Saigon. There were and still are inadequate facilities, but ICA has made plans to assist in establishing a new school of medicine and teaching hospital in Saigon. The new small nation does not have enough resources and does not have the foreign exchange to buy the equipment outside which cannot be manufactured there.

This letter is already too long, so I will summarize briefly. I believe that international cooperation and assistance in the health area has been and can be increasingly a productive area, that the program should be expanded carefully and wisely, and that the Government should provide leadership but work closely with private agencies and delegate to private agencies as much operation as possible.

Sincerely yours,

ROBERT A. MOORE, *Dean.*

NORTHWESTERN UNIVERSITY, MEDICAL SCHOOL,
Chicago, Ill., December 1, 1958.

DEAR MR. HUMPHREY: I most certainly highly approve of the preliminary work plan for the study of international health programs.

As a former Chairman of the Association of American Medical Colleges' Committee on Foreign Medical Education, I was struck by the many governmental and nongovernmental agencies involved in international health programs. It was amazing to see the amount of duplication and overlapping that occurred, particularly in the field of fellowships for foreign students both at the undergraduate, graduate and senior research and teaching fellow levels.

I believe the committee will be able to accomplish a great deal in redefining our many programs and offering us better information.

Cordially,

RICHARD H. YOUNG, M.D., *Dean.*

THE UNIVERSITY OF OKLAHOMA,
SCHOOL OF MEDICINE AND UNIVERSITY HOSPITALS,
Oklahoma City, Okla., December 19, 1958.

DEAR SENATOR HUMPHREY: We have been quite interested in the international health activities as they have an impact upon the various departments of the University of Oklahoma Medical Center. The present disturbance in world affairs has created many problems in the area of medical research and medical services which have caused the medical institutions to reappraise their duties

and responsibilities to their own institutions, to the government, and to the world.

The timely purpose of your committee in focusing attention upon the variety of organizations which are participating either in international medical research or international medical service programs is to be commended. Some of the comments which might be offered to your committee are as follows:

Closer attention might be paid to providing the type of training, both in quantity and quality which will best serve the health needs in specific areas of the world. The nature of health problems varies tremendously according to geographic regions. The type of medical services and programs needed likewise vary. The emphasis in terms of time, personnel, facilities, equipment and other types of financial support should be related closely to the major health problems in a particular area.

Since many of the health problems which are of major importance in many of the underdeveloped areas of the world are of minor importance to the United States, it is often difficult for personnel from such areas to receive the appropriate type of training which will make them most useful when they return to their own country. This brings up the problem concerning the advisability and desirability of initiating and developing specialized training facilities and programs in this country for physicians, engineers, nurses, nutritionists, and other health workers from the underdeveloped areas. As opposed to this, it might be much more desirable to place more emphasis in the future on developing appropriate institutions in these underdeveloped areas of the world where training may be best given to meet the major health problems.

Some study might be made of the basic motivation of our technical experts, scientists, and teachers who participate in oversea medical service programs. Many of their actions in their capacities as teachers or scientists will be guided by their basic motivation in participating in the international programs. As much attention as possible should be given to stressing the need to foster a better understanding and appreciation of the democratic way of life as well as in imparting highly technical information. From the point of view of creating a better international atmosphere, the life, conduct, and activities of our highly trained visiting technical experts is most important.

Another aspect which requires a great deal of thought has been the practice of sending individual foreign visitors in very small groups to institutions and to medical facilities. In general, this is a most expensive and often a very unproductive way of furnishing information or providing training. Often it seriously hinders and hampers the activities of an institution on one hand, and frequently the foreign visitor may be neglected and pushed into a corner, with the result that nothing is accomplished, and a bad impression is created.

I might add that the work of your committee and this initial outline of the function of your committee has been most informative. I hope that our institution will be kept informed concerning the work of the committee and that we will be called upon to participate and assist your committee in any way possible.

Sincerely yours,

MARK R. EVERETT, *Director and Dean.*

UNIVERSITY OF PITTSBURGH, SCHOOL OF MEDICINE,
Pittsburgh, Pa., July 20, 1959.

DEAR SENATOR HUMPHREY: I want to thank you for sending me your comprehensive report, "United States and the World Health Organization," which I have read with profit and pleasure. It gives a clear and lucid exposition of the workings of an organization which is most important to the well being of our United States. I agree with your 10 principal findings and particularly with your statement on page four where you say "Only when the highest echelons of government take a deep and continuing interest in health problems can further substantial progress be made." The progress made by medicine and public health in recent years in the conquest of disease presents us with an additional problem. If the present high birth rates throughout the world continue in the face of rapidly falling death rates, we shall soon be faced with a major population problem. Some form of population control must go hand in hand with continued attempts to eradicate disease if we are to establish a proper balance for the long-term future.

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Yours sincerely,

F. S. CHEEVER, M.D., *Dean.*

UNIVERSITY OF PUERTO RICO, SCHOOL OF MEDICINE,
San Juan, P.R., November 25, 1958.

DEAR SENATOR HUMPHREY: Thank you for your kind invitation to comment on the project being undertaken by your subcommittee to review international health activities. I shall confine my remarks to the first topic included in your letter namely "international medical research" and indicate certain modest beginnings which our School of Medicine is undertaking.

Dr. Edward Grzegorzewski, Head of our Department of Preventive Medicine and Public Health, will send you comments which I am certain will be of great interest to your committee. Dr. Grzegorzewski served for 10 years as Chief of the Division of Medical Education and Professional Services of the World Health Organization and is extremely well informed concerning the current personnel and the future needs for medical scientists and physicians for medical service throughout a large area of the world. His present responsibility as Head of the Department of Preventive Medicine and Public Health involves not only the training of our undergraduate medical students, but full responsibility for the graduate programs in a fully accredited School of Public Health.

International Medical Research: One of the great strengths of medical research in the U.S.A. is that a truly wide variety of individuals, organizations and institutions are engaged in its pursuit. It is not restricted to a few individuals provided with personal laboratories magnificently equipped and who regard themselves as having a monopoly within their country. Rather, there are within the United States a few outstanding institutes of medical research, others of modest proportion, and within each medical school serious medical research is being undertaken. In addition we find that every college of natural sciences or liberal arts college which maintains graduate programs is carrying on research in the biological and physical sciences often related to medical investigations. When we add to these programs the research carried on by various governmental agencies and the pharmaceutical industry we can appreciate the broad base of medical research in the United States.

Such a situation does not exist in the underdeveloped nations of the world nor is it found in Western Europe, excepting Great Britain. The trend is for the development of occasional research institutes in isolated situations and with marked effort to "protect" or "quarantine" the investigator. If we consider Latin America as typical there are such research centers as the Institute of Cardiology and the Institute of Tropical Medicine in Mexico City, the Institute of Malariology in Maracaibo, Venezuela, and a limited number of others which have been initiated by the respective governments. Unfortunately, the national or state universities are merely collections of professional schools, with no liberal arts college and no graduate college. The medical schools are not affiliated with the research institutes and are responsible for little or no research in the majority of instances. Even the research institutes have no regular training program to produce scientists. It would appear that only accidentally are promising young people enticed into a research career. When this event occurs, not infrequently outstanding scientists are developed. The Latin American institutions, mentioned above, which I happen to know personally, have produced meritorious work. Similarly the work at the Institute Pasteur in Paris is of the highest quality and in marked contrast to that of the Medical School of the University of Paris. The Superior Institute of Hygiene in Rome has two of its laboratories headed by Nobel laureates, but across the street the School of Medicine of the University of Rome has no contact with these illustrious scientists.

It is certain that no country has any monopoly on scientific acumen, initiative or research drive. It is unfortunate that so few people are exposed to the investigative career in so many countries and that even the promising ones often find very limited financial support. One of the truly great contributions the United States might make would be the provision of training for scientists in medicine from abroad and the support of the investigations of any who have demonstrated promise. The return which might be expected from such a policy would extend beyond the feelings of good will engendered by the recipients and would undoubtedly yield rich dividends in the advancement of new medical discoveries. We need only to remind ourselves of the contributions made by medical scientists from other nations which we daily utilize.

The School of Medicine of the University of Puerto Rico has made a very modest beginning in this field. Having a great advantage in the bilingual nature of our faculty we have already been receiving faculty members from med-

ical schools in Latin America who are taken into the corresponding department of our School of Medicine for at least a year of experience in teaching and in research. Our Department of Biochemistry and Nutrition had the Professor of Biochemistry of the Medical School of the University of Cauca (Colombia) for the academic year of 1957–58 and this year has an assistant professor from the National University of Bogota School of Medicine. This resulted from the fact that the Head of our Department of Biochemistry and Nutrition spent three months in Colombia in 1956 with the Tulane project, for the improvement of medical education in Colombia. I am confident that the association with a dynamic research program was at least as stimulating for these Colombian professors as was their contact with teaching.

A young faculty member from the medical school of Guadalajara, Mexico, spent two years (1956–1957) with us, the first in preventive medicine and the second in internal medicine. Currently, our Department of Anatomy has two faculty members from the medical school of Haiti for a year of experience in teaching and research. An additional Haitian will join our Department of Biochemistry and Nutrition on January 1, 1959. Our Department of Parasitology has had many Latin Americans and nationals from all parts of the world for long-term and short-term assignments. Our Department of Pathology received in 1957 a Nicaraguan physician for one year's training, but this has been extended to a second year.

The United States has attracted people with interests in clinical medicine from all parts of the world. It has provided them with the very best of clinical training, but I feel that the medical researcher has been passed by and that an active recruitment program is needed to attract the substantial numbers needed.

A new development at the University of Puerto Rico is making rapid strides. A contract between the Atomic Energy Commission and the university provides for the construction and operation of the Puerto Rico Nuclear Center. The School of Medicine is committed to three types of programs of training in the field of nuclear medicine for Puerto Rican or Latin American physicians and scientists: (a) the basic medical sciences; (b) the clinical medical sciences; and (c) programs in radiotherapy and cancer. Through certain staff expansion and provision of additional facilities it is currently possible to receive Latin Americans in all three areas. The number which can be accommodated simultaneously in any one of these areas varies from 10 to 12, but within a few months (to be completed by July 1, 1960) the construction of a biomedical facility will make it possible to increase these numbers. The fact that this instruction is offered in Spanish makes it possible to accept candidates who would otherwise have to spend from 6 to 12 months mastering a foreign language before they could be received at the usual sites of training within the United States.

Another area of research into which the School of Medicine is venturing is administrative or operational research. The Department of Preventive Medicine and Public Health has taken leadership in regionalization of the Bayamon District Health Services. Similarly in the development of the Rio Piedras training station the same medical school department has had a tremendous impact in the upgrading of the health services. The Department of Preventive Medicine and Public Health is trying to develop in its own community pilot plan the methodology and techniques which the Health Department can apply to raise the level of their own health care services.

A number of fine research institutions have been sponsored by a variety of agencies in the tropics. A few, with which I am familiar, are the Institute of Nutrition for Central America and Panama (INCAP) in Guatemala City, the Gorgas Laboratory in Panama, the Liberian Institute of Tropical Medicine, etc. In each instance the research potential of these institutions has not yet been realized for lack of financial support. Modest subsidy would yield high dividends.

This letter has expanded beyond my original intention, but having devoted four years (1942–46) to service in Central America and Mexico to the Institute of Inter-American Affairs, having visited many medical institutions in Middle America and the Caribbean area, and having served as Dean of the School of Medicine of the University of Puerto Rico for the past six and one-half years, I have rather strong feelings in this matter.

Cordially yours,

E. HAROLD HINMAN, M.D., *Dean.*

UNIVERSITY OF PUERTO RICO, SCHOOL OF MEDICINE,
San Juan, Puerto Rico, December 2, 1958.

DEAR SENATOR HUMPHREY: * * * Please find in the enclosures my remarks arranged under three headings:

1. Information on Training in Public Health in the School of Medicine, University of Puerto Rico.
2. Observations on International Aspects of Training in Public Health (based on the experience in Puerto Rico and elsewhere).
3. Some General Observations on International Health Cooperation.

I tried to answer some of the questions raised in the outline of your study, but naturally had to limit my remarks to a few subjects in which I had direct experience.

Hoping that some of my observations might be of interest to the study conducted under your leadership, I remain

Faithfully yours,

EDWARD GRZEGORZEWSKI, M.D., *Professor.*

1. INFORMATION ON TRAINING IN PUBLIC HEALTH IN THE SCHOOL OF MEDICINE, UNIVERSITY OF PUERTO RICO

Public health training in Puerto Rico has been given in the previously existing School of Tropical Medicine for some categories of health personnel. Since 1950 the School of Tropical Medicine has been integrated with the newly established School of Medicine, and training in public health has been entrusted to its Department of Preventive Medicine and Public Health. In 1954 the department was accredited by the American Public Health Association for the advanced training leading toward the degree of Master of Public Health. This accreditation has given the department the status comparable to that of a School of Public Health and qualified it for membership in the Association of American Schools of Public Health.

Being the only school in the United States where courses in public health are given in Spanish (the medical undergraduate teaching is in English), it started to attract students from Spanish-speaking countries of Latin America. Agencies interested in public health training of foreign students started to place them in Puerto Rico for the regular academic training in public health. The practical aspect of training in Puerto Rico is given in the conditions similar to those prevailing in Latin American communities, while the content and methods of training include the progress achieved in the United States adapted to the changing Latin American environment of Puerto Rico.

The International Cooperation Administration decided to use our school for training of its fellows for Latin America and made a contract with the University of Puerto Rico for training of up to 35 of their students every year for three years from 1957–58 on.

The contract provides for the payment of $3,000 per year for a person placed by ICA in the school. This arrangement permitted the university to adjust its teaching staff and other facilities to the needs of the program, oriented toward the needs of both local and foreign students. A smaller number of foreign students is placed by other agencies, like PASB (Regional Office of WHO) and the Rockefeller Foundation. In the current year the school offers the following courses which are attended also by foreign students:

	Number of students		
	U.S. citizen	*Foreign*	*Subtotal*
1. Courses leading to the degree of master of public health (mainly for medical doctors)	10	10	20
2. Courses leading to the degree of master of sanitary sciences	4	1	5
3. Courses leading to the degree of public health education	14	13	27
4. Courses leading to the BS in nursing or certificate in public health nursing	13	12	25
5. Courses leading to the certificate in medical technology	15	4	19
Total	56	40	96

In addition to foreign students enrolled in this basic professional instruction in public health, a considerable number of foreign health personnel comes for short periods. Some of them are placed for field training through USPHS after having completed the course in public health schools on the mainland; others arrive for short periods of observation ranging from a few days to a few months. The number of such visitors exceeds 50 per year. Close cooperation with the Commonwealth Department of Health creates very favorable conditions for demonstrating to foreign students the various forms of administration of health programs. This is further enhanced by the fact that the Health Department conducts a series of experiments in public health administration, in which our teaching staff cooperate in advisory and research capacity. Public Health practice is taught in one health center placed under the school's supervision to serve as field demonstration of community health administration.

The socioeconomic changes in Puerto Rico have become the subject of great interest in many countries seeking accelerated developments. The most effective ways in which medicine and health care would play their role in such conditions can be studied in Puerto Rico. This represents an additional and important advantage of continuing and developing public health training of foreign students in Puerto Rico. Public health developments in Puerto Rico and the organizational and other methods applied for the advancement of health are of more than just local interest, and may be considered as a contribution to the general body of knowledge and experience in public health.

On the other hand, the island is too small and its resources are too limited to carry on changes of a full-scope School of Public Health.

The present budget of the Department of Preventive Medicine and Public Health is compared roughly equally of local contributions (from the regular university budget and the Commonwealth Health Service) and from ICA contributions. The building of adequate teaching and research staff requires the expectation of a long-term professional academic career, which could be assured only if financial bases of the school were firmly established for long periods of time by external contribution such as now comes from ICA for shorter periods.

2. OBSERVATIONS ON INTERNATIONAL ASPECTS OF TRAINING IN PUBLIC HEALTH, BASED ON THE EXPERIENCE IN PUERTO RICO

It may well be admitted that training is one of the most encouraging areas of international health cooperation. Most effective programs seem to be those which consist of more than just one form of activity, e.g., fellowships for studies abroad, but also include other aspects of the development of local, national, and multinational educational institutions. This should include the support of the returning fellows in their efforts to utilize their newly acquired knowledge in the realistic conditions of their country, advice on the adjustment of their endeavors to their country needs and programs, assistance in building up physical teaching facilities, help in establishment and maintenance of scientific contacts within the country and abroad in order to avoid the feelings of frustration and loneliness and to provide occasions for mutual stimulation and encouragement. The above refers particularly to teaching staff who received part of their training abroad. Other professional staff often also need encouragement and help after their return from studies abroad.

There is probably no one single way in which this support could best be given, and a judicious selection of a flexible set of methods should be applied in each case. In some situations support from an outside agency may result in envy and isolation of the incumbent from his environment instead of cooperation and encouragement.

The remarks which follow refer to the inter-American situation; but, I believe, some of them may also be pertinent to the problem of cooperation with countries in some other parts of the world.

The pattern and program of the school in Puerto Rico, its standards, the content and methods of its teaching, and its close and continuous contact with the continental United States, place the school technically and scientifically among the institutions of North American education. But because it is located in a Latin American community and because it is culturally well integrated with its environment, the school can become an example of modern institution serving a rapidly advancing Latin community. Moreover, the school serves as a center for the advanced training of health personnel from the countries in Latin America.

In this connection, and in relation to cultural cooperation between North and South America, it is necessary to take into consideration the fact that in many Latin American countries scientific medicine developed under the influence of various centers of European civilization, mainly those in France, Spain, Italy, Germany, and Austria. Contacts with these sources are maintained and often cherished by many Latin American doctors. Even if the result of transplantation of European medicine to some Latin American environments has not been too satisfactory because of various (often local) circumstances, the emotional and intellectual attachment to the European sources should not be ignored or minimized. Intercultural activities should be based on an understanding of and respect for local cultural values, even though objectively these may seem of lower standard than the newly offered ones. The "old" values are often the only ones which people possess, and to lose them (or to lose respect for them) puts the autochthon in a position of inferiority with regard to the benevolent distributor of the new values. Thus the introduction of "North American" medicine and medical education into Latin America should be done patiently and tactfully, and definitely not with the implication that French, German, or Spanish patterns are "no good any more" and should be lightheartedly discarded. North American medicine is an expression of progress in world medicine; closer and better acquaintance with and understanding of the conditions which led to the present level of medicine and medical education in the United States will themselves gradually suggest the appropriate conclusions, without any need to elaborate the contrasts.

An acquaintance with the sources of Latin American medicine and health care, that is, with various patterns of European medicine and health care, is an important prerequisite for the direction of cooperative inter-American health programs. Disregard of this factor may lead to misunderstanding and even antagonism.

Obviously, the substance of medical science is more or less universal, and the national characteristics mentioned above concern only certain forms and traditions. Nevertheless these forms and traditions are very important in international cooperation, even in such a matter-of-fact subject as medicine. The progress of medicine and health care and of academic professional education in Latin America should not necessarily be measured by the degree of resemblance of its forms to those in North America.

3. SOME GENERAL OBSERVATIONS ON INTERNATIONAL HEALTH COOPERATION

Among the many problems connected with intercountry health cooperation, some are particularly important for the total outcome of the program.

(*a*) *Coordination.*—There are some advantages in channeling the cooperation through more than one organization. Hence the recognized usefulness of international activities of private groups such as foundations and others. However, a good exchange of information on planning of programs as well as on their execution should be very helpful between the official and nonofficial agencies, both national and international.

On the contrary, it seems more reasonable to channel one government's activities in health in a foreign country through one organization. Such governmental activities should be well coordinated with intergovernmental international activities to which the same government is a party. The endeavors for such coordination between ICA and WHO have been most useful. Since some health aspects appear in several international agencies and programs, it is desirable that the national government takes a coordinated stand on health and related matters in all these agencies. The government's field personnel in health programs abroad should be aware of these policies and contribute to the coordination of programs (national, bilateral, and multilateral) in the country of their assignment.

Nongovernmental national agencies engaged in international health work may not have same policies and same working methods as the governmental or intergovernmental ones, but it should be often of mutual benefit, if good understanding exists between all these agencies. They should supplement each other in the international and country programs.

(*b*) *Health personnel on foreign assignments.*—The position of foreign personnel assigned for technical work abroad is relatively little controversial in research, teaching, or on temporary advisory missions. Carrying out demonstration projects raises more doubts, and assumptions of administrative or executive

responsibilities (or even just strong "influence" in these matters) in a foreign country's health service, while remaining under own country's authority, may easily become a controversial issue. Perhaps such assignments should not be a standard pattern, but should be reserved for unusual situations and exceptional individuals only.

Except for training and advice, the advancement of public health should be based on local personnel and the country's own authorities.

Even successful demonstration work of foreign personnel is seldom really conclusive in the eyes of local population and local rank and file health personnel. They can attribute the successes to the high salaries of the foreign personnel, their access to the country's top authorities and availability of supplies, equipment, and funds. They feel that they could accomplish same work even more economically if they were given same means and authority.

Usually a privileged position of a highly competent foreign person (particularly of high status in his own country) is readily accepted in most countries. But this is not the case with regard to average technical foreign personnel. The advantages and disadvantages of sending such personnel abroad should be carefully weighed. Perhaps in the long run it might be more practical to limit the assignment abroad to persons of particularly high caliber, provided of course, that their potential usefulness is commensurate with their standing and experience.

(*c*) *Types of activities.*—There is a great variety of programs and projects in international cooperation, each of which is worth assisting in the appropriate circumstances. However, some activities can perhaps be applied more generally than others.

In many countries the health progress is handicapped by insufficient development or deficiencies of administrative structure, technical resources, economy, and so forth. In such conditions, foreign assistance cannot be adequately absorbed for any large service program or field demonstration. It can, however, be very usefully directed toward the establishment of institutions which should become scientific and training centers for the future expansion of health services. National institutes of health have been the strongholds and promoters of health progress in many countries. Given adequate working means they can attract promising young professionals, prepare them for competent technical leadership in health programs, and this forms a nucleus of health personnel who could develop national health programs outside the institute whenever other conditions permit. Such institutes can do training and research work along with services.

Another group of institutions worth encouragement and assistance are schools for basic professional personnel (medical, nursing, sanitation, and so forth) and for those specializing in public health (schools of public health). Naturally, the objectives and methods of training and of assistance to teaching institutions should be judiciously worked out in relation to the situation in the country, also taking into account the world trends and experiences. Connected with these schools should be training unit for field demonstration and experience in the organization and administration of health care. This is particularly important in the developing countries.

These remarks are not intended to question the value of other types of projects, but to emphasize the usefulness of those mentioned above.

(*d*) *Special Problem in International Cooperation—Comparative public health and international health cooperation.*—The increasing interest in the international health cooperation will certainly bring about a number of observations, suggestions, and more or less comprehensive plans. The purpose of this note is to raise only one of the many aspects of the problem, which, however, may be considered as particularly important because of its potential influence on the basic orientation of the international health cooperation. Health care, for the purpose of this note, is given a broad meaning to include the organization of medical care, promotion of research, medical and related education along with the traditional areas of public health administration. The boundaries of the concept of public health in different countries expand with the evolution of the underlying philosophy and conditions prevailing in those countries. Therefore, a worldwide approach to the subject should be based on a broad dynamic interpretation of public health functions, responsibilities, and potentialities.

Basic assumptions: 1. International cooperation in health, already representing considerable efforts in bilateral and multilateral programs, is likely to remain one of the important subjects in international relations, and may further grow in size and scope.

2. Although basic scientific facts, technical methods, and some medical and public health procedures can be rather easily transmitted to competent persons in other countries, the advancement of public health requires more complex adjustment of foreign experiences to the background of the country, its "realities" and development trends.

3. Notwithstanding some spectacular successes in specific campaigns, long-lasting improvements can be attained only through health measures closely integrated with the economic, social, cultural, administrative, and even political developments in the country.

4. The knowledge of the interrelationship between the various situations and activities in public health on one side, and the social, economic, cultural, and political factors on the other is growing but is still insufficient in size, empirical in nature, and unclear in its orientation.

5. Although considerable attention has been paid in recent years to the cultural anthropological aspect of health, particularly in connection with "intercultural" activities, and interesting material has been collected, the emphasis in these studies was laid on the folklore, or prejudices, and superstitions among the less developed human groups, and how they influence the people's attitudes toward various elements of health progress and health activities. Much less has been attempted in the area of relationship between health programs (their principles, policies, methods) and the various individual economic and social forms prevailing and developing in the society. Comparative studies of the developments in the various countries should help to clarify some of these relationships and thus contribute to the knowledge of principles on which public health can advance in the different forms and stages of development of the structure of society.

The problem: In view of the different patterns of social organization followed by various groups of countries, it is utmost important to know which health organizational policies and practices are and which are not compatible with each concept, each particular form, and each particular stage of social organization. This orientation should obviously be especially important in international cooperation. Without it, health programs suitable, say, in a liberal free-enterprise social system may not fit in a socialist, or welfare, State or authoritarian society (and vice versa).

Generally speaking, the knowledge of social systems in this sense, and of their interrelationship with health matters, is very seldom found among those who plan, lead, or execute health programs in their own countries and abroad. One of the explanations of this phenomenon is that the body of knowledge in this area is rather scant, and what is known has not yet been systematized and brought together. This knowledge is often lacking even among social scientists cooperating with health programs, as their background and interests directed them mainly towards more elementary phenomena of cultural anthropology. Besides, several very active sociological schools are mainly oriented towards statistical elaboration of some elementary group phenomena or characteristics often perceptible by simple observation and their explanation with the help of judiciously adapted semantics. Notwithstanding the usefulness of this orientation for some aspects of health programs, perhaps a different type of sociological approach to the problem discussed here might be more suitable, which ought to include more of historic and synthetic considerations.

An attempt to fill this gap in "sociology of public health" should be made if international health cooperation is to progress and create more international understanding than misunderstanding. Although much good work has been and is being done by foreign health personnel in many countries, their efforts are handicapped by the lack of knowledge and understanding of these relationships fundamental to the orientation of the programs they have to plan or to administer. This personnel learns ad hoc about the conditions in the individual country they happen to be assigned to and takes it for granted that the phenomena and relationships they observe are peculiar to the country, whereas they may be peculiar to a more general system or pattern developing in the country without necessarily having originated in it. It should be helpful to distinguish between what has already become an element of a country's particular, or just own, cultural heritage (and relate it to the different elements like economy, geography, education, beliefs, etc.) and what still remains a part of a "system" or doctrine common to many countries or imported from outside (e.g., the German pattern of medical education was introduced to Japan and to the United States, but it developed differently in each of these countries).

It seems safe to admit that in most instances local health leaders also do not have adequate knowledge of these relationships and are not aware of the existence of the problem. Thus a bilateral or multilateral adviser cooperates with his local counterpart often on important programs expected to influence the country's future development, neither of them realizing how this program relates to the basic social and economic trends and policies of the country. The fault is certainly primarily not with those individuals, but with the fact that no adequate systematic attempt has been made as yet to bring together the existing knowledge, to organize a program for collecting more knowledge on the subject and offer adequate material for briefing of such local and foreign personnel.

Such systematized knowledge of the relationship between public endeavors in health and in other aspects of society's life could contribute to the solution of very important and practical questions. For instance, what are the various organizational forms of medical and health care best suitable for the organizational framework of a planned economy state of the type built in some countries in South Asia? What should they be in a country where economy is based completely on free enterprise? In a country where free enterprise is limited to a certain portion of national economy, etc.? The suitability meant here should be assessed from the stand of health interest of the country itself and not from the point of view of one's own opinion, political or otherwise, which might be different from that of the country we are trying to assist as public health administrators guided by scientific principles and knowledge. In many instances we shall not have a full answer but at least will know some of its elements and how to use them in a constructive way. These considerations do not refer exclusively or mainly to the social doctrines and their consequences; they also relate to such matters as the degree of centralization of administrative responsibility, local initiative, educational level of population, its economic level, etc. Although it is true that best progress in public health can be achieved when all these factors reach a very high level, it is important to realize that even before such a fortunate situation occurs, public health could be advanced at any one level of any of these elements. The degree of success in advancing public health will depend also on how the measures taken fit to the actual combination of these elements.

The problem then is how can people achieve the highest possible degree of health at a given level of each of these factors and their combinations?

Experiences coming from any one country, even a very large one, or from a group of countries with similar cultural or social background and attitudes cannot provide sufficient material for conclusive comparative studies. Therefore, some "principles of public health" evolving from such experiences, valuable as they may be in some situations, are not adequate for projection to other areas with much different background and trends without careful adjustment, and are still less suitable for universal application. Naturally the problem is not simple and we cannot expect that a series of studies will provide answers to all complex questions involved in it. It can, however, be expected that a systematic study of the experiences of many nations, conducted in an unbiased scientific perspective, will help to clarify some fundamental issue, and perhaps provide some elements for a new and still more effective approach in international cooperation.

Suggested approach: Comparative public health is emerging from the experiences and thinking in public health throughout the world. It has not yet reached such stage of clarification and development as some other branches of public activities, e.g., the administration of justice, or the management of economic resources of the country where the experience has discovered some regularities in the relationship between the various phenomena and conditions, and some principles have emerged from these experiences.

The first step then should be to collect and examine the existing material and experience in the development of health activities in different countries, and how did this process relate to social, economic, and structural changes in the various types of societies. A few historical studies made so far were limited to a few "leading" countries, whereas the experience of other nations (sometimes worthwhile knowing) were largely neglected. Not seldom an aprioristic assumption that "principles of public health are everywhere the same" resulted in limiting the interest in foreign developments only to those which reflected the development in the leading countries, and leaving without attention some original endeavors or approaches. It is probable that more detailed studies will also show considerable similarities in the public health developments in

different countries, but they will relate them to the underlying factors and thus explain the basic relationships and the mechanisms of interaction instead of assuming them.

The studies should include the following aspects:

(*a*) historical developments of public health ideas and practices, particularly in relation to social order, social and economic doctrines, forms of the administrative structure of societies, etc.;

(*b*) geographical aspects of public health;

(*c*) sociology of public health including the advanced forms of social organization and development;

(*d*) economics of health services in relation to forms, stages, and trends in the different countries' patterns;

(*e*) comparative methodology of health planning and activities in relation to the various factors above; organizational forms and administrative methods in relation to the structure of society and its economy.

Considerable amount of information has been assembled on some of these areas by different agencies and institutions. Most of it, however, was collected and collated for various ad hoc purposes, reflecting some transitional interest of individual countries or programs. It is necessary to arrange all this material in a systematic unbiased way. Other information will have to be searched for in different parts of the world to make possible the studies listed above, partly through field investigations and research. The orientation of these studies should be exploratory, with the objective to clarify some of the relationships between these different factors and the health programs and policies.

The best way to start this program seems to be by basing it on two elements:

A. An institution entrusted with the initiation and development of the program, serving as a central place for collection of information and for the orientation of research;

B. A network of institutions in different countries which would agree to undertake studies on individual aspects or fragments of the program.

The program may be assisted by an advisory or supervisory body and should be financed from grants coming from national or multinational sources, governmental and nongovernmental endowments and foundations.

The central institutions could be envisaged as a small independent institute (e.g. like International Children's Centre in Paris) or a unit attached to a reputable academic or research institution. In view of pioneering nature of the program, the institute should enjoy sufficient independence and freedom of action, particularly in its formative stage. It should be small, in the beginning probably with not more than 5–10 professional staff (with the necessary research and secretarial assistance); should not be overwhelmed with administrative and organizational problems in order to concentrate its intellectual efforts on the substance of its research program.

It should be international in its approach, interest, and atmosphere, and not too much subjected to influence of individual governments or intergovernmental organization in order to preserve sufficient freedom in its studies. It should draw on the talent and knowledge of different countries and should recruit its staff on the basis of individual suitability for this kind of work, and not on the basis of nationality or origin. Its small size will avoid any danger of draining the national personnel resources. It should cooperate with international organizations, and particularly with WHO, but rather not be a part of their administrative structure in order to maintain an academic character and affiliation and to reserve for its long-term experimental program more freedom from naturally fluctuating policies of governmental or intergovernmental operating agencies. The potential results of the institute's work should benefit WHO and other agencies interested in multilateral or bilateral health work. Also such activities as UN social and technical assistance programs, reports on World Health Situation, World Social Situation, on the progress in nonself-governing territories, etc. should be assisted by the findings resulting from the systematic work of the institute. The latter should also be eventually useful for the advancement of national public health programs.

The central unit (or institute) should be located in proximity of a scientific center in order to have an easy access to libraries and other sources of information and advice. Its work will require lively contacts with many institutions in many countries through correspondence and travel.

Briefing and teaching: It may well be expected that in due course the institute should be able to make sufficient progress and offer its experience to others (e.g. governments, international organizations, teaching institutions) in the form of briefing, orientation courses or accepting research students interested in this area of study. The members of the institute should preferably take part in teaching at an advanced level in some schools of public health or comparable institutions, even in the early stage of the program. Gradually the institute's experience may become useful as a source of advice or cooperation on advanced training in public health administration and international health.

THE UNIVERSITY OF ROCHESTER,
SCHOOL OF MEDICINE AND DENTISTRY,
Rochester, N.Y., December 18, 1958.

DEAR SENATOR HUMPHREY: I am replying to your letter of October 27 which was only recently received.

Our best suggestion for promoting cooperative international efforts to advance medical science and medical service is that exchange visits by medical scientists between this and other countries of the world be promoted and facilitated to the fullest extent possible.

On the basis of much experience in this area, our faculty feels that to learn and benefit from the scientific work being conducted in other laboratories, there is no substitute for a visit to these laboratories. Even a short period of two or three days spent in consultation with leading research workers in their own laboratories is much more productive than the most extended correspondence or the most industrious reading of the publications from such laboratories. Even better of course are visits involving a longer period of time in which the visitor can actually work side by side with his hosts for a period of months or even a year or more.

For the United States to obtain maximum benefit from such a program it is important that the exchanges be in both directions. Not only should there be ample opportunity for promising scientists from abroad to visit the United States and spend time in our laboratories, but equally important, scientists from the United States should have the opportunity to visit and spend time in those laboratories abroad that are known to be making substantial progress in medical research.

As matters now stand, it is our impression that it is much easier for foreign scientists to secure support to visit the United States than it is for American scientists to secure support for visits abroad.

To point up this problem I might cite that in any given year we are likely to have 40 or more scientists from abroad at various levels of their development working at or visiting this medical center, whereas in any one year it is rare for more than a half dozen of our faculty to have an opportunity to visit laboratories abroad and even fewer are able to spend any substantial amount of time in foreign research centers.

We would hope, therefore, that your committee in its study would consider the possibility of recommending that additional opportunities be created to enable American scientists to visit foreign laboratories both briefly and for extended periods of time. There is no question that work of our own scientists could benefit tremendously from closer acquaintance with the work going on in some of the leading laboratories in other parts of the world particularly Europe, including Soviet Russia and to a lesser extent some of the leading centers of South America, Australia, Asia and Africa.

I hope that these comments and suggestions will be helpful to you.

Sincerely yours,

DONALD G. ANDERSON, M.D., *Dean.*

ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE,
St. Louis, Mo., December 1, 1958.

DEAR SENATOR HUMPHREY: Thank you very much for forwarding the preliminary work plan of the subcommittee with its obvious interests in supporting international relations in the health field.

This School of Medicine is particularly interested in the program of study which you have outlined since we are in the preliminary stages of developing a liaison with the Javeriana University in Bogota, Colombia, in support of their medical education program. We hope that the assistance that can be given in the development of that Faculty of Medicine will have far reaching implications for the health needs of Colombia.

I do hope that this information is of interest to you and please be assured of my sincere interest in the continuing activities of the subcommittee. If you would find it possible from time to time to forward subcommittee reports to us at St. Louis University School of Medicine it would be sincerely appreciated.

Thank you very much for your most interesting letter.

Sincerely yours,

JAMES W. COLBERT, Jr., M.D., *Dean.*

STATE UNIVERSITY OF SOUTH DAKOTA, SCHOOL OF MEDICINE,
Vermillion, December 6, 1958.

DEAR SENATOR HUMPHREY: I am pleased to reply to yours of October 27 although I fear with a little in the way of suggestions that would help your committee in a tangible manner. No one who is close to the medical research field, or in medical education, could certainly take exception to the significance of any project which would promote these two endeavors on an international scale. The implementation of such a program would occur to many to be a difficult chore.

I do have one concern which I voice and that is the matter of financing, particularly if it should mean that our own national programs were in any way to be curtailed or limited. After all, there is presumably a limitation of available monies and their judicious expenditure is naturally a concern of everyone.

I simply note this situation. For our own institution, where we have been accumulating from 50 to 70 thousand dollars a year in research monies, there are still areas of research that are deserving of support but for which money could not be made available. This simply means that our own scientists in these instances are not receiving support for substantial contributions that they could make in medical research. We have had several instances over the past five years where research proposals submitted to the USPH service have been approved as projects but which could not be implemented because of a limitation of funds. I would hesitate then to advocate any excessive spending for international research purposes if there should be an occasion for an extension or increase of these situations where research grants cannot be implemented.

Wishing you every good success in your deliberations, I remain

Sincerely yours,

WALTER L. HARD, Ph. D., *Dean.*

TULANE UNIVERSITY,
SCHOOL OF MEDICINE,
New Orleans, La., December 9, 1958.

DEAR SENATOR HUMPHREY: The opportunity of passing on to you and your committee some of the observations made by our faculty during a three year experience supporting medical education in the seven medical schools of Colombia, South America, is deeply appreciated. Our efforts have been most gratifying to us as medical educators and we believe have been productive of real and constructive changes for the better in the medical educational system of Colombia. We have repeated evidences that our program has been an instrument of good international relations and we have enjoyed exceptionally cordial and friendly working associations with our Colombian counterparts.

The difficulties that we have encountered relate to the restrictive and, at times, extremely cumbersome provisions of our contract with the International Cooperation Administration and with the continual requirements that decisions concerning personnel and other matters which have cleared through the medical schools in Colombia and through our own faculty must be approved by Washington and the Operational Mission in Colombia, neither of which have real knowledge of the individual or matter concerned nor of the problems facing us in medical education. I refer also to the clearance procedures which, in our experience, have consumed periods of from three to seven months. Particularly distressing and frustrating has been the deletion from our proposed budget of any

money for bringing promising medical faculty members from Colombian schools to the United States for even short periods of reorientation and scientific training. It has been our philosophy that a program such as ours is effective almost in proportion to the degree in which an atmosphere of mutuality can be engendered. Our Colombian friends repeatedly inquire for the reason that fellowships or training grants cannot be arranged for faculty members. A somewhat similar problem exists in arranging for United States Operational Mission fellowships for graduate students in medicine. Since the objective of our program is to help train superior teachers of medicine and help these teachers in the planning and organization of proper medical curricula we are trying to select leaders. Such men are invariably in demand and, understandably, find it difficult to come to the United States under the same financial arrangements as would be acceptable to much less highly educated individuals whose earning capacities are far less than that of an outstanding young physician. Private foundations have realized this situation and have faced it realistically. It would be a great boon to our program were such readjustments possible under the conditions of our ICA contract.

Without exception, our people would strongly endorse the suggestion made by Dean Rusk of the Rockefeller Foundation at the Conference on University Contracts Abroad in Washington in November, that memoranda of understanding between the government and a particular university would be a far more workable and satisfying type of relationship than the present contractual one. It is our conviction that, as specialists, devoting our lives to medical education, we are in a better position to determine the needs in our field and possible ways of meeting them than are individuals whose primary interests are in such areas as government or public health and sanitation. It would further seem that a university, as an organization of high principle, should enjoy the confidence of the government in carrying out an objective in detail which had been described in generalities by a "memorandum of understanding" referred to above.

Currently, contracts abroad under ICA are being written for three years but are funded annually. This represents a definite improvement over earlier arrangements, but is still not satisfactory. Certainly our objectives in medical education cannot be attained in a three or five year period. Rather, a continuous and sustained effort of ten to fifteen years will be required, a fact that should be recognized, at least in contract renewals.

To implement our contract the university is forced to take on new personnel, a majority with academic tenure. This, of course, we are happy to do whenever possible, but we feel that there should be assurance of their financial support for more than a one to three year program as evidence that our government shares our responsibility in tenure positions.

In October of 1958, the Institute of Research on Overseas Programs of Michigan State University, East Lansing, published "The International Programs of American Universities." Of the total of 382 projects of all categories throughout the world, 15 involved medicine, public health, or medicine and public health. I should like to add parenthetically that only 5 of these 15 involve Cuba, Mexico or Central and South American countries. This, to us, seems to be an almost unbelievably small effort in the health fields on the part of the ICA. Actually, in the area of our interest (Colombia) private foundations have made far greater contributions than are possible under Government-sponsored programs. Our interrelations with these private foundations have been excellent and, on many occasions, have made it possible for our Government-sponsored program to reach real and important goals.

In conclusion, it is our opinion that the university contracts abroad portion of the ICA program is making an ever-increasing contribution in underdeveloped areas and that the need for rapid and well planned expansion of such efforts is apparent. The contracts not only help to improve medical education and/or public health, agricultural technology, administration in government, etc., but also represent unparalleled opportunities for creating good relationships between the United States and other countries. In considering the needed expansion and the problems faced by American universities, we feel that liberalization of contractual arrangements and allowance for a far greater degree of self-determination as regards ways and means of effectively carrying out primary objectives will become increasingly important considerations in the minds of university administrators and faculty members. We sincerely hope that these comments will be of use to the subcommittee.

Sincerely,

M. E. LAPHAM, M.D., *Dean.*

UNIVERSITY OF VIRGINIA,
SCHOOL OF MEDICINE,
Charlottesville, Va., December 31, 1958.

DEAR SENATOR HUMPHREY: * * * I believe you have hit upon a most important failing on the part of American medicine and American medical educators, the solutions to which are not easy, nor at the present apparent to me. I can only say that I am tremendously interested in the problems of our obligation to people in medicine and research all over the world as the leaders in this field at the present time. I also feel very strongly that basic research in medicine is a worldwide resource and that the major limiting factor is creative thinking, which should be supported wherever it rises. In other words, I am heartily in favor of expanding our support of research outside of the continental United States. I also believe that training opportunities in this country in research should be more readily available to well-qualified people from abroad.

I should be very happy to help in any way possible with your efforts.

Sincerely,

THOMAS H. HUNTER, M.D., *Dean.*

UNIVERSITY OF WASHINGTON, SCHOOL OF MEDICINE,
Seattle, December 19, 1958.

DEAR SENATOR HUMPHREY: I have reviewed the material which you sent concerning Senate Resolution 347. I believe that the objectives of this proposed legislation are sound. Our own School of Medicine here at the University of Washington has been contributing in several ways to some of the purposes in which you are interested. We do, for instance, welcome visiting scientists from other countries who wish to study and do research in our laboratories. Many of our faculty members participate actively in international scientific societies and contribute to the ongoing scientific work of these organizations. In addition, of course, we try to keep in touch with the work of our scientific colleagues in other countries through a great variety of foreign medical and scientific journals which are available in our Health Sciences Library. I simply offer these examples as evidence of the interest which we have in such international collaboration in the field of health and of our present active efforts to move along these lines.

Best wishes in your efforts to move forward with legislation which will further enhance these objectives.

Sincerely yours,

G. N. AAGAARD, M.D., *Dean.*

UNIVERSITY OF WASHINGTON,
Seattle, Wash., January 7, 1959.

DEAR SENATOR HUMPHREY: I have been greatly interested in your recent proposals for stimulation of worldwide interest in medical research, including the proposed International Medical Year.

Would you be kind enough to send me copies of any speeches or printed material that you may have, or will have in the near future, concerning these matters.

I believe that the United States is, of course, the logical country to take the lead in organizing such things as an International Medical Year and I am particularly interested in the proposals for U.S. grants to foreign medical researchers. I believe, however, that consideration should be given to grants to the institutions accepting such foreign medical researchers as well, since it is impossible to establish a research or teaching program of this nature without adequate funds. It is apparent that such grants to foreign medical researchers, however, do serve a dual purpose in that they not only promote advancement in medical science throughout the world but also promote understanding of this country by some of the most influential citizens in other countries.

Although I am completely in sympathy with the idea of establishing such things as an International Medical Year and grants for foreign medical researchers, I think it must be kept in mind that the situation in the field of medicine is somewhat different from that that pertains in such areas as physics, mathematics, and chemistry. In the field of medicine there is such a vast gap between the standards set primarily by such countries as the United States, Great Britain, and the Scandinavian countries, and even some other European

countries, that all too frequently the backgrounds of individuals who come to this country for research purposes are totally inadequate. It is, of course, to improve this situation that such programs as you have proposed would be of great value.

Very truly yours,

JOHN R. HOGNESS, M.D.,
Medical Director, University Hospital.

WASHINGTON UNIVERSITY, SCHOOL OF MEDICINE,
St. Louis, Mo., November 29, 1958.

DEAR SENATOR HUMPHREY: Your letter of October 27, concerning the study of International Health problems, has come to my attention. I may say immediately that this Medical School is much interested in furthering international cooperation in all aspects of medical affairs. Medicine knows no national boundaries. An epidemic arising in one part of the world may affect us directly. Research carried out in one country is to the benefit of all countries.

The key to the situation, as I understand it, is communication and transportation. Research fails in its purpose unless its results are known wherever they may be applicable. Disease should be controlled wherever it arises, not after it has become widespread. Medicine will be improved, therefore, to the degree that there is free interchange of information and people throughout the world.

Within its ability, this institution participates in international activities. Our policies encourage our staff members to study and work abroad, and we accept visitors for the same purposes. We make little distinction in this regard between research and service. Our efforts are to send abroad our best people, and to accept in return the best available visitors.

I hope these opinions are of value. If I can be of any further service, please let me know.

Yours respectfully,

EDWARD W. DEMPSEY, *Dean.*

WEST VIRGINIA UNIVERSITY, MEDICAL CENTER,
Morgantown, May 18, 1959.

DEAR SENATOR HUMPHREY: This is to acknowledge your letter of May 5, 1959, and the receipt of the two committee publications: "International Medical Research" (Report No. 160) and "The Status of World Health" (Report No. 161).

Let me say first of all that presently the School of Medicine of West Virginia University offers only the first two years of the medical curriculum. We are now in the process of setting up a four-year curriculum.

In answer to the first question you raise, it is my feeling that the United States Government should certainly be in sympathy with, and encourage international cooperation in, medical research against the major and crippling diseases. I think it highly important that medical scientists throughout the world be kept informed (via journals, reprints, or even personal correspondence) of the results of their scientific researches (including new research methods). I presume that this would actually come under the heading of communications.

As to the second phase of your invitation I should say that up to the present time the School of Medicine of West Virginia University has not "engaged in work with international ramifications." We have thus far not been in a position to train foreign physicians, nor have we been in a position to send any of our faculty members on detail abroad. I am sorry that we have not been able to do this.

* * * * * * *

Sincerely yours,

EDWARD J. VAN LIERE, M.D., *Dean.*

CANADA

DALHOUSIE UNIVERSITY,
Halifax, N.S., 29th December, 1958.

DEAR SIR: Some time ago you forwarded to me an outline of a project which is to be undertaken by your subcommittee to review health research activities conducted officially by the United States Government and by international agencies. * * *

I do not have any suggestions which I think would be useful to your subcommittee. The outline of the study which you plan to make seems to be very complete.

May I state, however, that the assistance which the U.S. Government has provided through various agencies in furthering medical research is without question of tremendous value. In my own specialty of epidemiology there are certain problems which can be studied only on an international basis—for example, the factors which influence the distribution of disease in various parts of the world as related to climatic and other conditions. Dalhousie University has been pleased to cooperate with the National Institutes of Health on one such project recently. It is hoped that your subcommittee will find means to encourage and support further international cooperation in the fields of medical research.

Yours very truly,

C. B. STEWART, M.D., *Dean.*

UNIVERSITÉ LAVAL,
Quebec, Canada, June 15, 1959.

DEAR MR. HUMPHREY: I wish to thank you for your letter of May 5th and the two copies of your committee publications.

Since medical research has no national boundaries, we are very interested in all the efforts made to encourage international cooperation, specially by our good neighbors in the South.

Our medical school at Laval University has quite a big enrollment (125 students per year). We just moved to a new building. This will permit a better teaching and a better training for our medical students and our research workers. We now have a good group of young medical research workers doing active research in the fields of cancer, neurophysiology, histology, radiation biology, etc. Most of these projects are made possible with grants received from the Canadian governments or foundations. Some are also paid by American sources. In this respect, our answer to your first question would be:

1. We believe that being a leader in the field of medical research, the U.S. Government should encourage international cooperation in medical research by increasing substantially the grants offered by its Federal agencies and available to foreign medical scientists.

2. It would also be advisable that the U.S. Government should encourage the training of post doctoral fellows by granting special fellowships to foreign workers. This could permit, for instance, one of our young faculty members to acquire a new training in one of your many Federal laboratories, National Cancer Institute, National Heart Institute, etc.

As for your second question, I may say that since a quarter of century, an average of five or six American students per year have graduated from our medical school, and have returned to practice in your country. Since the end of the war, a very large proportion of our graduates are taking their post-doctoral training in medical centers in the United States. A small number of them remain in your country. Since our two countries are very close together, this exchange of students is not really "international cooperation."

However, we might say also that we have very close links with France. Many of our graduates study there and we have a constant exchange of visiting professors.

At the level of research workers, we have developed since two years, our graduate school, with the result that a total of six students from abroad have been inscripted for Ph. D. thesis in basic medical sciences (Spain, Italy, Belgium, Pakistan, India, and Indochina).

In closing, I would like to add that many of our faculty members are very well aware of the problems of international cooperation in medical research. They are willing to do their share in this respect, and they would gladly participate in any international organization.

I remain,

Yours very truly,

JEAN-BAPTISTE JOBIN, M.D., *Dean, Faculté de Médicine.*

UNIVERSITY OF SASKATCHEWAN,
Saskatoon, Canada, December 2, 1958.

DEAR MR. HUMPHREY: This is in response to your letter dated October 27 to the deans of medical schools. Although my school is a Canadian one, I thought I might forward an opinion, which may or may not be germane to your purpose. I notice on page 3 of your preliminary work plan, paragraph 2, section (b), the focus on international medical assistance or service programs to help peoples lacking adequate resources is to "combat widespread infections and other afflictions."

Last summer as a faculty member of a study tour and seminar in Yugoslavia, organized by World University Service of Canada, I had an opportunity to meet a number of university officials in both Belgrade and Zagreb, as well as health workers in rural areas. This country has benefited greatly by assistance from United States and other countries, either through United Nations or directly, and it was clear to me that this was good for international understanding, quite apart from the technical progress resulting. Of particular value in this connection is the study of heart disease in different parts of Croatia in relation to the type of fat content in the diet; this was gathered by an international committee headed by Ancel Keys of the faculty of medicine, University of Minnesota. Other important contacts have been between Yugoslav government agencies and consultants on rehabilitation and physical medicine from New York and New Jersey.

Although malaria and typhus were scourges in this country, this kind of health problem is now well under control. It would seem to me that important opportunities would be overlooked if the effort of the United States were to be concentrated largely on "widespread infections and other afflictions" unless the latter were to be interpreted in the broadest manner.

We met a number of serious minded and responsible younger teachers at both Belgrade and Zagreb who are most interested in North American methods of medical care and research. One, for example, is a physiologist at the University of Belgrade who would like to spend a year in an American medical school in a department in which there was a special interest in kidney function. If he spent 7 or 8 months in a suitable center, then another 2 or 3 in visiting carefully chosen additional centers, he would return to Yugoslavia with an immensely valuable armamentarium of new approaches in teaching, research and medical care. He would carry with him increased respect for Western medical science and particularly North American ways of doing things. * * *

The selection of such individuals for a postgraduate experience in the States would have to be very carefully done because there is, of course, a certain amount of "escapism" among some of the medical men. One would wish to be certain that any selected would be among those enthusiastically committed to a building up of their country. * * *

Yours sincerely,

J. WENDELL MACLEOD, M.D., *Dean of Medicine.*

UNIVERSITY OF TORONTO,
FACULTY OF MEDICINE,
Toronto, Canada, January 6, 1959.

DEAR SENATOR HUMPHREY: * * * I have noted with interest the resolution and outline of your project, which is related to an examination of the scope and methods of the contribution of the Government of the United States to medical research, particularly in the international field. We in Canada are particularly cognizant of the tremendous contributions in this field which have been made by the United States, and indeed in many instances the facilities and support of medical research have been made available to Canadians. A recent example was the conference organized by the medical staff of the Brookhaven Medical Research Center of the Atomic Energy Commission. The deans of all the medical schools in Canada were invited to attend, and there was an assurance given us that the facilities at Brookhaven would be open to properly qualified Canadian scholars and scientists who were sponsored by their own schools.

I could give you several other examples of American support being extended to Canadian efforts, but this is in no way a comprehensive survey—it is more in the nature of a letter of appreciation for the very close liaison which has in the past existed between the medical scholars of this country and those of the United States, and I am sure we may look forward to even closer relations in the future.

Yours sincerely,

J. A. MacFarlane, *Dean.*

6. Views of Deans and Other Faculty Members and Officers of Foreign Medical Schools

Senator Humphrey. Comments by deans of medical schools elsewhere in the world naturally differ somewhat in emphasis from the replies from North American schools.

In our inquiry to deans abroad, we inquired as regards certain particular questions relevant to their nation's medical problems as well as to the world scene. Thus we asked, in effect:

In the judgment of the foreign deans, what are the major health problems in their own countries toward whose conquest they might desire assistance so as to strengthen their role?

Apart from their own unique problems, what are specific challenges of an international research nature the particular medical schools would like to further contribute toward meeting?

What are some of the present principal obstacles to international medical collaboration?

What do the deans feel should be the roles of the respective national governments and intergovernmental organizations?

In the case of emerging countries of the world, most of the replies, it will be noted, bear quite understandably upon international technical assistance rather than upon international research, as such.

These additional points may be noted:

Quite a few of these educators have personally visited the subcommittee's office. This occurred particularly at the time of the very important Second World Conference on Medical Education. This conference was held in Chicago under the auspices of the World Medical Association, the American Medical Association, and others.

One cannot read letters from these foreign medical educators without sensing the acute needs of many of these medical schools and their desire for closer teamwork with their colleagues abroad.

PAST TRAINING OF U.S. PHYSICIANS ABROAD

I should like to recall that in the early history of our own nation, American physicians gravitated to the medical schools of the Old World for their education and postgraduate training. The medical schools of England, of France, and of Germany developed not only a great number of outstanding physicians for their respective nations, but played a crucial role in educating American and other nationals.

FOREIGN TRAINING OF DOCTORS FROM UNDERDEVELOPED LANDS

Today, many of the outstanding medical schools of Europe continue to play an indispensable role in the training of foreign physicians. This is particularly the case as regards physicians from the emerging areas of the world such as Asia, the Middle East, Africa, and Latin America.

In the subcommittee's office, in informal conversations with foreign medical educators, we have been apprised of the difficult financial problems besetting even the medical colleges and teaching hospitals of the most highly industrialized lands. (These problems are, however, no stranger to our own U.S. medical schools. In talking with our staff, U.S. medical educators, likewise, have supplemented the letters printed in the preceding section by pointing up difficult problems they face. These problems often include inadequate buildings, underpaid faculty, obsolete laboratories, serious deficits. The result is to impair their ability—like their opposite numbers' ability overseas—to absorb increased numbers of foreign undergraduates and postgraduates.)

Foreign Medical Schools' Role

The following are excerpts from some of the replies received from deans of foreign medical schools in response to our inquiry.

ARGENTINA

[Translation (Spanish)]

National University of Córdoba,
Córdoba, April 29, 1959.

Dear Sir: I beg to acknowledge receipt of your letter of last March 11, and to send you a reply to the questions stated therein.

One of our country's big health problems is the fight against cancer, which it has not yet been possible to organize properly. There are seven State Schools of Medicine in the Argentine Republic. I think that it would be desirable if in each of them a cancer institute were established, equipped with facilities to carry on the proper social, clinical, and research activities, on the understanding that each of these cancer institutes would be active in its own sphere of influence, within the national territory, organizing dispensaries and centers to operate in close connection with them.

The School of Medicine of the University of Córdoba has thought of setting up a cancer institute at the big University Hospital which has been planned within the confines of University City.

As regards the cooperation in the fight against cancer, heart and other diseases, the United States might promote the training of specialists in cancerology, cardiology, etc., by granting fellowships to specialists in the respective fields. These fellowships might be given upon recommendation from the respective medical school. It would also be of advantage to step up the exchange with and visits of researchers to our country, and vice versa.

Besides the above-mentioned diseases which are afflicting our country, I should cite chagas, brucellosis, tuberculosis, poliomyelitis, and virus infections in general, as well as hydatidosis. A few days ago a large Zoonoses Center was founded under the sponsorship of O.M.S. [W.H.O.], at Azul, near Buenos Aires.

Another form of contributing to the solution of our country's public health problems would be economic aid by way of loans, for the construction of institutes, and the dispatching to our country of specialists who would collaborate in their organization.

I am planning to attend the World Congress on Medical Education in Chicago next September, and I may possibly have an opportunity, when I come through Washington, to call on you and have a person-to-person talk with you about these problems.

I am taking this occasion to send you my best regards.

Professor Dr. Juan Martin Allende,
Dean, School of Medical Sciences.

AUSTRALIA

THE UNIVERSITY OF ADELAIDE,
6th October, 1959.

DEAR SIR: * * * I referred the letter and the booklet to our Professor of Medicine and, after canvassing the opinions of his colleagues in the Faculty of Medicine, he has provided the following information in reply to the questions posed in the fourth paragraph of your letter:

"*1. Leading problems of disease in Australia.*—

"(*a*) *In the continental mainland*—the problems are very similar to those in U.S. and European countries, viz. cardiovascular disease, malignant disease, and degenerative disease of the elderly.

"(*b*) *In the Territory of Papua and New Guinea*—the major health problems are malaria, tuberculosis, acute infectious diseases of infants, and leprosy. In addition there are a number of unusual disorders, e.g. kuru, nutritional disorders, developmental defects, which while not numerically frequent, are of major medical interest.

"(*c*) *Australia has a particular responsibility*—in the field of health education to her near Asiatic neighbours, especially India, Malaya and Indonesia, to provide undergraduate and postgraduate medical training for citizens of these countries and to assist in the improvement of health services in those countries.

"*2. Obstacles to international collaboration: How these may be overcome with regard to the problems indicated above.*—

"(*a*) The main difficulties in the path of Australian contribution to the solution of these problems are:

"(1) Insufficient scholarships to assist Australian workers to get training and experience in research methods in oversea centres. High costs of travel between Australia and the northern hemisphere increase these difficulties.

"(2) Insufficient full-time research positions at reasonable salary levels in Australian institutions.

"(*b*) The population of Papua-New Guinea is one-fifth of that of Australia. Shortage of trained personnel is acute in the territory. Assistance in the projected medical school in Port Moresby and in the research division would greatly facilitate efforts to overcome health problems in the territory. Support for special research projects would be worthy of consideration.

"(*c*) A major need in this connection is some organization whereby postgraduate exchange could be increased. Australian universities could accommodate many more postgraduates for training as teachers and research workers, while selected personnel could be seconded with advantage to medical centres in India, Malaya, and Indonesia for specific projects. Lack of funds and lack of suitable organization are the main obstacles at present."

I hope this information may be of assistance to your committee.

Yours faithfully,

V. A. EDGELOE, *Registrar.*

BELGIUM

UNIVERSITÉ LIBRE DE BRUXELLES,
Brussels, July 27, 1959.

DEAR SIR: Your most interesting letter dated March 13 has received very careful consideration by our faculty members. A subcommittee was asked to prepare a reply to the questions raised in your letter and enclosure. The following was unanimously adopted by our faculty:

Our faculty welcomes most heartily the U.S. Government's effort to strengthen cooperation among researchers against disease, and organize cooperation among medical schools, keeping firmly in mind the necessity of avoiding any kind of barrier of nationality, ideology or culture. It supports very strongly such aims. Among the four proposals advanced with the view of promoting them, are namely—

(*a*) assistance to specific medical research projects overseas;
(*b*) the furthering of exchange of research workers;
(*c*) aid to selected medical congresses;
(*d*) translation and diffusion of medical information.

The two first proposals (*a*) and (*b*) seem to us to be most essential and highly recommended. There is a tendency to hold, all in all, too many con-

gresses. Well prepared roundtable discussions such as those organized by the "Ciba Foundation" are stimulating however and ought to be favoured on a larger scale. Abstract services actually existing seem to cover satisfactorily, in the present state of affairs, the needs as regard to (*d*).

Point (*a*) is most essential in our opinion. It ought to be supported financially on the part of the various medical schools involved in such research projects, on a reciprocal basis whenever this is found possible, strengthening thereby the cooperative aspect of the project, even if such a reciprocal basis could not be a "50–50" one.

As regard to point (*b*), we feel that although a lot has already been done between the U.S.A. and Belgium (Belgian American Educational Foundation, and Fulbright Act) more should be done along those lines with regard to young research workers having already a certain experience in research.

It would be most valuable, however, if your institute could promote also exchanges of visiting teachers in both directions, who would have the mission to study in the visited country, methods and conceptions of teaching medical sciences both basic and clinical, as well as related problems such as methods of examination and so forth.

Our faculty is very anxious to receive your reactions to our suggestions and to be able to keep in close touch with your committee and projected institute to be created for the purpose.

Yours sincerely,

Dr. M. MILLET, *President.*

BRAZIL

UNIVERSIDADE DO RECIFE,
Recife, May 4, 1959.

DEAR SIR: Your letters of March 11 and 12 last were received with much pleasure by the Medical School of the University of Recife. We were very happy indeed to learn that the United States of America is interested in aiding Latin America in the areas of research and education.

There is no doubt that we will only "be able to aid in the victory over mortal diseases and deformity-producing illnesses such as cancer, cardiovascular diseases and many other" if we possess the means for intensive research which are needed to hasten such a conquest.

One of the most useful means for combating such diseases and all the many others which assail humanity today is close cooperation between the research workers of more advanced with those of less developed countries through constant exchange visits and sharing of the information resultant from study and research.

This school of medicine already receives the valuable help of the American people through the Rockefeller and Kellogg Foundations, which have aided us as much as possible, especially the former one with subsidies which have allowed for the improvement of medical education and increase in research carried on in the various departments.

We recognize that the above mentioned aid is limited to a few years, due to the fact that those foundations have a limited budget and many obligations in other parts of the world where financial and technical assistance are also needed.

Equipment and skilled personnel of the Senate of the United States of America as an effective and lasting complementation to the above mentioned aid would be an excellent way of helping this school and of stimulating us to continue to progress in our program of teaching and research.

The Senate of the United States is to be commended for emphasizing the fact that there must be no interference or any national, ideological or cultural barrier in the human effort for the relief of pain and suffering, incapacity or premature death "in an unique demonstration that the peoples of the United States desire to help remove the world from suffering which results from disease, with no other interest or ulterior motives."

We will be very pleased to receive all the publications which you desire to send us, for we are sure they will be useful resource material in the planning of our education and research programs.

This school of medicine has the annals of the First Convention on Medical Education which was held in London in 1952 and expects to be represented in the Second Convention, which is to be held in Chicago next August 29th to Sep-

tember 4th, at which time we hope to offer our modest contribution to such a vital subject.

Our school library subscribes to the Journal of Medical Education and has the complete series published to date—we have found the articles very useful due to the many aspects under which education is approached and analyzed.

Under separate cover we will be mailing you some of the publications written by members of the faculty of this school, all of which have summaries in English. This includes the Annals of the Medical School of the University of Recife which is published thrice yearly and contains summaries in English of most articles, the majority of which are on tropical medicine.

To better acquaint you with the most frequent problems and illnesses which assail us, we are organizing a lengthy report on the pathology of this geographical region which is tropical; when mailing such a report to you we will also enclose more detailed and concrete suggestions concerning:

(*a*) The aid necessary to allow us to increase our educational program both on the graduate and postgraduate level;

(*b*) The aid which will enable us to accelerate and increase our research of tropical disease and of those illnesses which assail all the world today (cancer, cardiovascular diseases, and so forth).

(*c*) Developing the program of education for nursing through definite aid to our School of Nursing which occupies a high standing among others of this country;

(*d*) Scholarship aid for doctors who have recently graduated and show remarkable ability for teaching or medical research;

(*e*) Scholarship aid for our professors and their assistants enabling them to visit and observe in the most advanced medical centers;

(*f*) The visit of sufficiently credenciated foreign specialists to our country and vice versa;

(*g*) The advisability of an observer from the U.S. Senate to observe 'in loco" our problems and needs;

(*h*) The establishment of an international year of health, including time, place and advantages.

Sincerely,

Professor Dr. ANTÔNIO SIMÃO DOS SANTOS FIGUEIRA,
Diretor da Faculdade de Medicina.

COLOMBIA

UNIVERSITY OF ANTIOQUIA,
Medellin, May 4, 1959.

DEAR SENATOR HUMPHREY: It has been a pleasure to receive your interesting communication of March 12, 1959, which I have read and studied carefully.

I believe that the most important thing to strengthen international medical research and international medical assistance is to give more technical and financial support to such international institutions, as the World Health Organization, the Pan American Sanitary Bureau, UNESCO, and the like, in order to improve the schools of medicine and the schools of public health with fellowships for professors and promising students. Such institutions do have the experience and organization to do these things, specially in underdeveloped countries such as ours.

The very first priority should be given to the training of technical and scientific personnel, of which we are in a great need.

I am very glad to have received your letter and that you have given me this opportunity to express my ideas and hope that a real desire to help the technical and educational development of our countries will result in a better international understanding.

Very sincerely yours,

ALFONSO AGUIRRE, M.D., *Dean, School of Medicine.*

CATHOLIC UNIVERSITY OF XAVIER,
Bogotá, April 4, 1959.

DEAR SENATOR HUMPHREY: I want to thank you very much for your letter dated March 11, 1959, and to congratulate you for the excellent idea regarding the broadening of research programs to include the medical schools in Latin America.

As a matter of fact, ever since last year I have been working on several plans regarding cooperation from the United States, and I am glad to include copies of the proposed programs in order to see whether it would be possible to include some of these programs under the United States Senate research aid budget.

Regarding the questionnaire, I am glad to answer you as follows:

I believe that the United States Government should extend its help to conquer killing and crippling diseases like cancer and cardiovascular ailments, and also to conquer some of the diseases that are very common in the tropical countries and very easy to treat, like amoebiasis, tropical anemia, leprosy, etc.

For a cancer campaign, the first step is to improve teaching of cancerology in medical schools in order to prepare well-trained doctors able to diagnose and treat the disease during the early stages when it is perfectly curable. It would also be necessary to carry out a campaign among the laity giving information about the alarm symptoms.

The United States Government could strengthen cooperation, giving funds for research and training in medical schools, and also to the already established cancer institutes. In Colombia, for example, it would be very easy to start a plan with the help of the seven medical schools and the assistance of the National Cancer Institute to carry out a program on medical education and research.

Please count on me to help you with great interest and enthusiasm in your plans. Colombia is a Latin American country in the way of development and I think that we need your assistance and help for our programs. It will strengthen friendship and will establish a real Pan Americanism that both you and we need very badly.

Very truly yours,

JOSÉ A. JÁCOME, M.D., F.A.C.S.

DENMARK

UNIVERSITY OF COPENHAGEN,
Copenhagen, September 29, 1959.

DEAR SIR: Referring to your letter of March 11 and 12, this year, concerning international medical research and aid, I have to inform you that the matter has been communicated to the members of this faculty and aroused great interest.

The faculty is quite aware of the necessity of cooperation within all the fields of medicine, and that teamwork should take place in each individual country and between countries. Only through cooperation may the individual research worker's results influence the whole scientific development.

Specialization within the basal as well as the clinical sciences has reached such an extent that problems rarely may be solved by a single research worker, but almost always require several specialists.

As far as the teaching is concerned—as well of students as of postgraduates—it is also a crucial point that co-ordination takes place between countries, for one thing in consequence of the fact that we must aim at an extensive exchange of teachers and research workers.

The faculty is, accordingly, highly interested in the work of the Senate committe, and we shall do our best to promote the matter. Especially, we should like to point out to the committee the desirability of increasing the funds for study tours.

Sincerely yours,

FR. THERKELSEN,
Dean of the Medical Faculty.

ECUADOR

[Translation (Spanish)]

UNIVERSITY OF GUAYAQUIL,
Guayaquil, April 29, 1959.

DEAR SENATOR: I am pleased to acknowledge receipt of your kind communication of March 13 of this year, which I did not answer with due expeditiousness because it arrived during my vacation.

In accordance with your kind request that I state my opinion as to what the U.S. Government might do to make greater progress in the fight against diseases which, such as cancer and cardiovascular ailments, constitute a threat to human life; and what should be done to achieve closer collaboration among researchers

and among schools of medicine, I beg to state that I think that one of the methods by which this may be achieved would be, without a doubt, by an increase in the funds earmarked for the fight against the above diseases, and, with respect to scientific research, by a larger number of fellowships to enable skilled individuals from other countries to engage in studies toward specialization and to do research work.

There is no question that scientific research requires sufficient money for equipment and for paying the personnel who must devote themselves to such work on a full-time basis. And this problem is accentuated in the economically underdeveloped countries where the professional men must divide their time among teaching, research, and their own specific work. Nor is there any question about the need for an improvement in the medical care aspect and for an earnest intensification of the disease prevention labors. In this connection, it is important that the university teaching body should improve its teaching methods by including as widely as possible the study of preventive medicine, in order to produce skilled personnel, with adequate training, to take a hand in the solution of the problems of social medicine, abandoning the old-fashioned individualistic pattern still existing in many countries, and adopting a more humane position toward the troubles besetting the collectivity.

It would be desirable to convoke periodic meetings of the personnel concerned with this type of problems in the different countries. These international meetings would have the purpose of revising concepts, uniting efforts, planning and putting into effect, in a sufficiently uniform manner, the projects which would be approved at those meetings.

The fight against cancer and tuberculosis in our country has been proposed via the establishment of autonomous institutions, supported partly by the State and partly by the collection of taxes destined for their maintenance. For example, one *sucre* is collected on each bag of cement produced, 50 percent of this tax to go to the "Ecuadorian Anti-Tuberculosis League" and to the "Society for the Fight against Cancer," because both diseases constitute an important mortality factor.

The education of the public, by providing adequate information about these diseases and how to prevent them, and by making use of all suitable means toward that end, would also be a reason for technical planning and unification on the part of the different international bodies, which would prepare the climate for the campaigns against the diseases which shorten the life-span of the human individual.

Permit me to express to you my appreciation of your kind consultation and my gratification because the Senate of your country, animated by great human compassion and by an enormous spirit of international collaboration, is once again taking an interest in these problems which afflict man, regardless of the latitude in which he lives and regardless of his race or nationality.

Very truly yours,

Dr. Alfonso Martínez Aragón,
Dean, Faculty of Medical Sciences.

FINLAND

University of Turku,
Turku, July 15, 1959.

Dear Sir: It is with great pleasure that I received your letter of March 11, 1959, which gave expression to a firm desire to strengthen the worldwide fight against severe diseases by increasing the cooperative efforts of medical schools as well as individual scientists on a large international scale. The medical faculty of Turku University, after having discussed the question, gives its full support to the project and, for its own part, wishes to contribute to the fulfillment of the plan.

In this country, the facilities for research work, owing to the difficult economical situation of the post-war period as well as to the existence of several other big tasks, have remained somewhat behind in the development which has taken place in countries with greater financial resources. In spite of this, it has been possible to build several new up-to-date research institutes among which those of Turku University hold a prominent place. We are, indeed, happy to possess a medical institute building which offers extremely favourable working conditions for theoretical research as well as for cooperation with the closely connected clinical branches.

The immense technical development, however, which has opened entirely new possibilities for experimental research, has also increased the expenses involved in research work. As a result of this, we are not at the moment in the position of meeting the requirements of our scientists to an extent which would guarantee the best possible efficiency of their scientific activities. It should also be mentioned in this connection that all the scientists of our faculty have undertaken study or research work abroad in order to receive additional training in the scientific and technical problems and tasks of their respective fields.

At present, we can report good progress in research work particularly on cardiovascular diseases, as well as on problems of growth, metabolism and basic research of endocrinology. To our great pleasure, we have also noticed the willingness of foreign researchers to cooperate with our own scientists. Unfortunately, the further development of this collaborative work is seriously restricted by the rather modest financial resources at our disposal.

A detailed account of some of these research projects has been submitted to you at the end of 1958 through Professor A. I. Virtanen, member of the Finnish Academy.

In your letter you kindly invited us to offer suggestions towards solving the problems mentioned by you. Referring to the above statement I should now like to put forward the following suggestions:

It is our special wish that we should be given the opportunity of discussing our research projects here with specially elected experts of the various branches of research. We set great value on personal contact as it gives the authorities concerned an opportunity to—

(1) meet the scientists themselves and of estimating their personal qualifications for the research work in question;

(2) become acquainted with the local working conditions such as the suitability of buildings, the available research equipment and technical staff as well as the financial resources and possible wishes of the scientists in this respect;

(3) evaluate the standard and the importance of the research projects and compare their costs with those of similar research work elsewhere.

For carrying out this plan, we shall, of course, be glad to supply any information required and to join our forces in the common enterprise.

May I conclude by thanking you again for your most valuable initiative which I hope will lead to excellent results.

Sincerely Yours,

EERO MUSTAKALLIO,
Dean of the Medical Faculty.

FORMOSA

NATIONAL TAIWAN UNIVERSITY,
COLLEGE OF MEDICINE,
Taiwan, January 5, 1960.

DEAR SIR: With great pleasure I am writing in reply to your letter inviting comments on problems and opportunities of world medical research and assistance. * * * Since the end of World War II your country has made great contributions to the promotion of health and well-being of mankind. The new enterprise approved by the Senate no doubt will be another great step toward achieving the goal of the highest level of health for all peoples as set forth by the World Health Organization.

The National Taiwan University College of Medicine which I represent dates back to 1945 when the island was restored to China after the ending of the Sino-Japanese War. Its forerunner, originally known as the Taiwan Government Medical School, was established in 1900 and re-organized in 1919 and again in 1936. In the latter year it became the Taihoku Imperial University Faculty of Medicine, offering a 4-year course to those who had successfully completed 4–5-year secondary plus 3-year preparatory education.

In 1945, a 6-year medical curriculum—one year pre-medical, 4-year medical and one-year rotating internship leading to the degree of B.M.—was adopted. In 1949, the pre-medical course was raised to two years, making the whole course 7-year. More recently special emphasis has been placed on laboratory work and bedside clinical teaching in which the student participates and on the teaching of preventive medicine and public health using community facilities.

During the past 14 years many improvements have been effected. Buildings of the college and the teaching hospital damaged during the war were repaired and new ones added. The following new departments and institutions were established:

1946: Department of Radiology
1947: Institutes of Pathology and Physiology
1951: Institute of Public Health
1953: School of Pharmacy
Taiwan Serum & Vaccine Institute (cooperation with the Provincial Health Administration)
1953 to
1954: Expansion of College Library
1955: School of Dentistry
1956: Collegiate School of Nursing
School of Medical Technology
1959: Public Health Teaching and Demonstration Center (a joint institution with the Provincial Health Administration and the Taipei Municipality)

In addition, the college together with its hospital possesses 19 departments of preclinical and clinical instruction. The present faculty consists of 36 professors, 30 associate professors, 42 instructors, and 36 teaching assistants.

The enrollment for the academic year of 1959 to 60 totals 1,048 students; 644 medical, 66 dental, 169 pharmacy, 56 medical technology, 95 nursing and 18 in post-graduate research. The college and hospital have also played an important role in providing refresher courses for the health personnel of the island.

Apart from its regular budgets and special appropriations by the Ministry of Education, the college has received substantial aids from many organizations such as WHO, ICA, ABMAC, CMB, CF, and others. These contributions include scientific and hospital equipment, books and journals, scholarships and travelling fellowships, and cash grants for building constructions and other purposes. The most significant result from such generous support no doubt has been the building and training of a medical faculty of selected men and women who have now reached maturity and independent judgment of the mind, capable of doing effective scientific work in their chosen specialties and devoted to the pursuit of teaching and learning and the practise of medicine and public health.

Scientific research is indispensable in modern medicine and medical education. Brief summaries of publications by members of each department are now available in English and give a general picture of the research activities of the faculty. The following is a selected list of studies currently undertaken or under planning:

1. Etiology of hepatoma and Naso-pharyngeal carcinoma which are particularly prevalent among the Chinese including the Taiwanese.

2. Tissue culture techniques—interaction between local polio-virus recently isolated and Taiwan monkey kidney cells.

3. Action mechanism of snake venoms on striated muscle and chemistry of their neuro-toxins—During the past 30 years more than 200 papers were published concerning the effects of Taiwan snake venoms, opium alkaloids and some Chinese drugs.

4. Effect of snake venoms on the central nervous system.

5. Relationship of the function between the subcommissural organs and the Reissner's fibers and the electro-microscopic structures of both.

6. Goitre survey and control—The disease is prevalent in many parts of the island. The incidence runs as high as 70 per cent among school children in certain areas. It is an important public health problem.

7. Prevalence and etiology of "black foot disease"—It is characterized by spontaneous gangrene of the extremities especially the feet. It occurs in a limited area between two counties in southern Taiwan. In severe cases, it involves not only the feet and hands but also the legs and arms.

8. Trachoma—Before the present island-wide treatment campaign of trachoma among the school children, the disease affected about one-half of the school population and similar proportions of other age groups. A joint investigation with the U.S. Naval Research Unit in Taiwan has succeeded in isolating the virus and in preparing a vaccine. Clinical trials are undertaken in testing the prophylactic efficacy of the vaccine.

9. Nutrition surveys—Examinations of school children and other age groups have shown several types of nutritional deficiency such as riboflavin,

thiamine, vitamins A and B, iron and protein. The problem of protein malnutrition probably is more general among young children between the age of 1 and 3 years after the weaning of mother's milk and before their becoming old enough to take adult food. Special emphasis should be made on the study of such problems. In view of limited possibilities of developing dairy industries on the island, research is essential in order to prepare a complete baby food of high protein content and quality from a vegetable source such as soy bean, which is now produced locally in increasing quantities.

10. Enteric infections and parasitic diseases—Diarrheas and enteric infections are a very important cause of child mortality. Stool examinations of schoolchildren reveal high prevalence of parasitic infestations especially hookworm, ascaris and trichuris. Efforts must be directed toward the control of these infections and infestations if the decline of child mortality is to be accelerated on the island.

As the college rapidly grows from year to year, the requirement of more and better laboratory facilities for scientific work increases. This has become a serious concern to the faculty specially among the departments of basic medical sciences. Lately it has been proposed that a central research laboratory be established to meet the need of members from both preclinical and clinical departments who are engaged in basic medical research. A new building of three stories is planned to be erected within the premises of the college including an animal house and a machine shop. The laboratory will be provided with up-to-date scientific equipment and organized into physical, chemical, and micro-biological units according to scientific techniques rather than by departments of instruction. This plan would eliminate the duplication of expensive equipment which may be used by more than one department. At the same time, it should promote cooperation and teamwork among specialists of different disciplines which is frequently essential in medical research.

A detailed plan has been submitted to the Ministry of Education. It is hoped that ICA would make a grant to meet the requirement of U.S. currency for purchase of scientific equipment and other items which are to be imported, local capital expenses for building construction, and furnishings to be covered partly by government funds and partly from the counterpart funds of U.S. assistance. For maintenance and recurrent expenses of the proposed laboratory, the university has agreed to increase the budget of the college by an annual amount of NT$5,060,000.

The Department of Psychiatry and the Institutes of Pathology and Public Health have expressed their hope that a central statistical processing unit be set up to serve their needs. The professor of psychiatry states that his department possesses records from mental health surveys of 30,000 persons which require statistical processing and analysis and should keep a simple unit of punching, sorting, and tabulating machines occupied for a full year. Once such a unit is installed, there is no question that other departments will be able to make good use of these machines. A member of the Institute of Public Health is trained in vital and medical statistics. Recent arrival of a visiting professor of epidemiology and biostatistics in the college will encourage increasing use of statistical methods and machines for analysis of scientific data.

As mentioned above, this college has for the past decade received considerable assistance from America, governmental and private, and we are again requesting a grant from ICA in connection with the proposed establishment of a central research laboratory. It is needless to say that there are still many urgent needs for which we require more aid, both material and technical. I want to take this opportunity to assure you that we consider it a privilege as well as a duty to join this great new movement of international medical research which your country again leads and generously supports. We shall do our best to contribute our humble share in furthering scientific knowledge which is basic to ensure continuing progress in the prevention of disease and in the betterment of health.

HUOYAO WEI, M.D., *Dean.*

GERMANY

[Translation (German)]

UNIVERSITY OF HAMBURG,
Hamburg, November 10, 1959.

DEAR SENATOR: We thank you very much for the letter which you addressed to the School of Medicine of our university. We took note thereof with extraordinary interest and are in every way interested in the questions which you pose regarding the collaboration of scientists and/or of medical schools.

Your letter contains certain questions on which you request comment. I beg to answer these briefly, as set out below, although my comments could only be considered as briefly touching upon a number of timely problems of general interest.

(1) *"What health problems of our country are international in scope?"*

If we disregard the aid to be extended to underdeveloped countries, a subject which is now being debated in your Senate as a matter of course, and, therefore, the problem of epidemic and infectious diseases, the primary concern of the civilized countries would, for example, be the following disease groups:

—Cardiovascular ailments; malignant tumors; degenerative and geriatric disorders; and, mental illness.

Among these diseases, the cancer problem may be of greatest international importance. International cooperation might, therefore, be especially intensified and promoted in the field of cancer research and the fight against cancer, and then be extended to other fields, particularly to those dealing with basic medical research. The most successful method would undoubtedly be a deepening of contact between individual scientists. An intercontinental effort would, at this stage, still be running into overly great financial difficulties. It is felt that a support of this effort should be given primary attention and that the immediate result would be fruitful. We might contemplate, first and foremost, the facilitation of research and study trips, as well as the attendance of international colloquiums, meetings, and congresses. In this connection, we would greatly welcome, of course, the establishment of a U.S. National Institute for International Medical Research.

(2) *"What special projects would be considered suitable for an international collaboration?"*

In our opinion, emphasis should be given, first and foremost, to medical documentation. In view of the enormous scope of a project of this nature, it is felt that, for the time being, only one specific branch of the field of medical research, such as, for example, the compilation of cancer statistics, should be placed on an international basis. If the experiences with this device are favorable, an attendant expansion of international medical collaboration, as comprehensive as possible in scope, would then, of course, be particularly useful.

(3) *"Comment on plans for an 'International Public Health and Medical Research Year.'"*

International cooperation within the framework of a "Medical Year" might conceivably be very stimulating for a specially defined problem. As compared with the geophysical year, for example, we feel that the conditions with respect to medicine are somewhat different, in that many geophysical problems can perforce be worked on, and solved, only on a global basis, while this does not apply to medicine in the same manner. Rather, insofar as medical research is concerned, the establishment and intensification of international contracts, as expounded by us with regard to points (2) and (3), would, for the time being, be more useful and yield greater benefits.

We would like to believe that we have in the premises briefly touched on the most important points on which you requested our comments, and that we have provided you with a few suggestions for a fruitful international cooperation in which we are naturally very much interested.

Respectfully yours,

PROFESSOR DR. SAUTTER,
Dean, School of Medicine.

[Translation (German)]

UNIVERSITY OF TUEBINGEN,
Tuebingen, July 15, 1959.

DEAR SENATOR: The school of medicine has, at its faculty meeting of July 7, 1959, and through inquiries among all its members, given careful consideration to your letter of March 13, 1959, and feels that international research and cooperation in the field of medicine might be promoted and improved in the following manner:

(1) It would be useful, with a view to coordinating the research activities of the different countries, to set up in the individual countries special research institutes for the purpose of inquiring into given problems.

These institutes might be coordinated under a central organization plan. In each country they should be attached to larger medical institutes, as centrally located as possible. They should be equipped with the necessary research facilities and a so-called permanent staff, and should afford researchers from all kinds of institutes and clinics an opportunity to make use of the research facilities on a temporary basis.

A comprehensive library, and, above all, a highly modern documentation service, should form the nucleus of these research institutes. To a certain extent, they might be patterned after the well-known zoological station at Naples, which has proved its worth for centuries.

(2) Financing of conferences (symposiums) on a small scale (attended by approximately 15 to 20 participants), since big international congresses no longer afford opportunities for a fruitful exchange of ideas on a person-to-person basis.

It might be useful, in given cases, to provide the services of interpreters with specialized medical knowledge, since contacts are often difficult because of the language barrier.

(3) Availability of funds for young American researchers to study in countries other than the United States, which would enable them to get to know the research and working methods of foreign specialists, as well as their problems and difficulties and, on the other hand, to pass on their experiences to foreign countries in person.

(4) Improved information services, for the rapid and reliable dissemination of new research data and findings, thereby avoiding work by other research groups on problems that have already been solved, and so that they can devote their efforts to other questions.

The establishment of facilities for contact among the separate research groups working on the same subject matter might perhaps also be useful.

The information services might be improved by way of publication of annual reports, promotion of the availability of large quantities of separates, and establishment of library centers with efficiently operating reference and bibliography facilities.

Important in this connection would be the various languages and the facilitation of inexpensive translations of lectures, articles, etc., in the various languages. Consideration might be given to the establishment of such library centers in the English, French, Spanish, German, Italian, Russian, etc. languages.

(5) With respect to promoting personal contacts, it would be beneficial to create paid jobs for the purpose of training the young generation of scientists from foreign countries.

(6) On the part of the dentists, special attention is called, in the fight against dental caries, to the promotion of special research in salivary biochemistry which might be better coordinated and made more effective by making financial support available to the "European Organization for Fluoric Research and Caries Prophylaxis (ORCA)."

Professor Dr. W. DICK,
Dean, School of Medicine.

ICELAND

UNIVERSITY OF ICELAND,
Reykjavik, September 3, 1959.

DEAR SIR: * * *

The Medical School of the University of Iceland takes pleasure in knowing that the U.S. Senate has been preparing a legislation to promote medical research and the fight against killing diseases.

It goes without saying that increased financial support to scientific research contributes to the release of forces otherwise hidden. We are well aware that lack of adequate financial support has been a serious hindrance to international cooperation between scientists and universities in recent years.

As to the Medical School of the University of Iceland and its scientific work, there is at present mainly one research institute that is run under the auspices of the medical school, and that is the University Institute for Experimental Pathology, at Keldur (in the vicinity of Reykjavík). But the university hospital is now being enlarged a great deal and plans for a separate building for the medical school are under preparation. It is hoped that it will then be possible to start organized research in the various fields of medicine.

With new research laboratories it is likely that the research will be centered on the most serious diseases in the country, whose frequency has greatly increased during the past decade, i.e., cardiovascular ailments and malignant growths. Moreover, it is likely that we will be able to give important answers to various hereditary diseases, as the population of Iceland is small and has been isolated from other countries for centuries. The same may be true in tracing the course of contagious diseases, e. g., virus diseases.

Sincerely yours,

SIGURÐUR SAMÚELSSON
Dean of the Medical School.

INDIA

From: Dr. Santokh Singh Anand, FRCS (Eng.), FACS, FCCP, dean, faculty of medical sciences, Punjab University and principal, Medical College, Amritsar.
To: The Registrar, Punjab University, Chandigarh.
Subject: World Medical Research and Assistance.

I have carefully gone through the report of the Senator Hubert H. Humphrey, chairman, International Health Study, Washington, D.C., U.S.A., and would like to make the following comments:

We are in full agreement with the possibility of having international cooperation for advanced research in this country. Further, we will be very glad if international assistance is provided for this purpose in the form of fellowships or scholarships and exchange of research personnel from this country with United States as that would be a great impetus to the development of research facilities in our own country. There are many common research problems on which work is being done in the United States and in this country, for example, "etiology of carcinoma of the lung and its relation to smoking" and "cardiovascular disease especially coronary thrombosis." There are other problems which are peculiar in our country, for example, nutritional deficiency disease, communicable and infectious disease.

Assistance in the form of development of the libraries in the Indian medical colleges would be most welcome as medical literature especially the back numbers of important medical, surgical, and journals of basic subjects, namely anatomy, physiology, pharmacology, and pathology, are lacking in most of the medical colleges in this country. In my opinion if the international cooperation is possible along these lines it would be extremely suitable for expansion of research facilities in this country.

OVERCOMING SHORTAGE OF PHYSICIANS

Senator HUMPHREY. It is already clear that the shortage of physicians almost everywhere in the world is serious. Nowhere is this more the case, as our third committee print, "The Status of World Health" pointed out, than in the underdeveloped regions.

In this respect, let me refer now to one particular topic referred to in the next letter. It relates to the opportunity for expanded regional training centers of medical education.

Perhaps the illustration most familiar to Americans is the American University of Beirut. The record of AUB stands as a wonderful testimonial to American educational methods, American generosity and American medical science.

ROLE OF ISRAEL IN INTERNATIONAL MEDICAL TRAINING

In addition, we will refer now to a fine letter sent, in response to my invitation, by Dr. Moshe Prywes, Associate Dean, Hebrew University, Jerusalem. In this connection, I should like to mention the following:

Medical schools in Israel provide, in my judgment, a splendid opportunity for what the U.S. foreign aid program terms "third country" training.

To train a foreign physician in the United States is, as we know, the usual form of educational assistance, that is, to assist one country by educating its nationals in a second country—our own land. But it is hardly necessary for the United States to bring foreign graduates thousands of miles to our own shores for medical education, if much closer at hand, as in Israel, there are competent medical facilities for that very purpose.

"Third country training" can be not only less expensive but also more effective than second country training. Israel itself represents a country which, by its diligent labor, has risen from what might be considered an underdeveloped status, to become a major scientific center.

In other words, here is, in my personal view, an outstanding example for emerging nations to understand, and which they can attempt to follow, particularly in the democratic organization of its entire society. I am, therefore, impressed by Dr. Prywes' comments in this letter.

Already, Israeli scientists have made a great many distinctive contributions to world medical research. Here is another way by which this young Republic can be of further aid to world science.

I particularly invite attention to Dr. Prywes' setting forth of the sum of resources which might implement an international medical scholarship program. I had asked him for this specific data and he and his colleagues had helpfully complied. This data should be carefully considered, in my view, by the International Cooperation Administration and related sources in planning the implementing of assistance programs for the Afro-Asian and other countries in underdeveloped regions.

REGIONAL TRAINING CENTERS ELSEWHERE

Generally, I feel that the opportunities for third country training of a great many more foreign physicians should be very sympathetically developed by our foreign aid program.

In the Asian area, I believe that the Philippines can become a much more important center for international training. The same may be said of Puerto Rico in our own hemisphere.

Dr. Prywes' letter, based on consultation with his colleagues, as he states, follows:

ISRAEL

THE HEBREW UNIVERSITY,
HADASSAH MEDICAL SCHOOL,
Jerusalem, December 17, 1959.

DEAR SENATOR HUMPHREY: I would like to thank you most sincerely for your letter of October 26 in which you asked us to send you a report on those activities of the Medical School that have contributed to the raising of health standards in other countries, with a view to establishing in our faculty an international medical scholarship program for undergraduate, graduate, and postgraduate education. * * *

I take pleasure in informing you that your letter was presented to the Board of Management of the Medical School, the Chairman of which is Prof. B. Mazar, President of the Hebrew University. The membership of the Board of Management consists of representatives of the Hebrew University, the Hadassah Medical Organization and the Directors General of the Ministries of Health and Education as representatives of the Israel Government. All board members hailed your proposal with great enthusiasm and have asked me to convey to you their deep appreciation for the personal interest you have taken in our Medical School.

I have the honor to attach herewith a report, divided into three appendixes, in which we have endeavored to answer the three main questions raised in your letter, as follows:

Appendix A: The contribution of members of the staff of the Hebrew University Hadassah Medical School to Strengthening Health Standards in Other Nations.

Appendix B: Training of Foreign Students and Residents in Israel.

Appendix C: Outline of Program Proposed Under the International Medical Scholarship Program.

I hope that this material will provide an adequate basis for an agreement * * * with the aim of establishing the international medical scholarship program for undergraduate, graduate, and postgraduate medical education in Israel. Should some additional information be required, we shall be very glad to send it to you.

It is our ardent belief that the proposed program of medical education will contribute its share to the raising of health standards in the different areas of the world where such a need exists, thus furthering the cause of peace and cooperation among all nations.

May I ask you to convey our thanks to Mr. Julius N. Cahn, the project director of your international health study, for his guidance and help.

I have the honor to remain,

Yours very sincerely,

M. PRYWES, M.D., *Associate Dean.*

APPENDIX A. THE CONTRIBUTION OF MEMBERS OF THE STAFF OF THE HEBREW UNIVERSITY-HADASSAH MEDICAL SCHOOL TO STRENGTHENING HEALTH STANDARDS IN OTHER COUNTRIES

I. World Health Organization

(*a*) Out of the total of 20 Israeli doctors and scientists serving as experts in 19 expert committees of the World Health Organization, 14 are members of the Medical School staff.

The following is a complete list (members of the Medical School are marked with an asterisk):

Expert Advisory Panel on Parasitic Diseases: Prof. S. Adler*
Expert Advisory Panel on Environmental Sanitation: Dr. Y. Babad
Expert Advisory Panel on Health Statistics: Prof. R. Bacchi*
Expert Advisory Panel on Insecticides: Prof. G. G. Mer*
Expert Advisory Panel on International Quarantine: Dr. P. Yekutiel*
Expert Advisory Panel on Organization of Medical Care: Dr. S. Btesh, Dr. K. J. Mann*
Expert Advisory Panel on Professional and Technical Education of Medical and Auxiliary Personal: Prof. T. Grushka*

Expert Advisory Panel on Public Health Administration: Prof. W. Strauss*
Expert Advisory Panel on Rabies: Dr. A. Komarov*
Expert Advisory Panel on Rehabilitation: Dr. I. Guinzberg
Expert Advisory Panel on Trachoma: Prof. A. Feigenbaum*
Expert Advisory Panel on Venereal Infections and Treponematoses: Prof. A. Dostrovsky,* Dr. J. Katzenellenbogen
Expert Advisory Panel on Treponematoses, Serology and Laboratory Aspects: Dr. F. Rappaport
Expert Advisory Panel on Virus Diseases: Prof. H. Bernkopf*
Expert Advisory Panel on Zoonoses: Dr. J. van der Hoeden
Expert Advisory Panel on Dental Health: Dr. I. Sciaky*
Expert Advisory Panel on Arteriosclerosis: Dr. H. Ungar*
Expert Advisory Panel on Cancer: Dr. I. Berenblum
Expert Advisory Panel on Malaria: Prof. G. G. Mer*

Other members of our faculty are occasionally invited to join the membership of various World Health Organization committees, as, for example, Prof. J. J. Groen, Professor of Medicine, on the Panel of Atherosclerosis; Dr. K. J. Mann, Director General of the Hadassah Medical Organization, was recently invited to take part in the elaboration of a survey on costs of medical care.

(*b*) The Virus Research Laboratory of the Department of Bacteriology of the Medical School is recognized by the World Health Organization as the Regional Laboratory for Influenza Research.

(*c*) Important facilities for graduate and postgraduate training in public health and preventive medicine for local as well as foreign doctors have recently been created in the Medical School with the aid of WHO. A team of six experts from the University of Natal (South Africa) headed by Prof. Sidney L. Kark, arrived last July in Jerusalem and started, together with Israeli counterparts, a project in social medicine.

II. Liberia

At the invitation of the Liberian Government and under the auspices of the Liberian National Health Service, Prof. I. C. Michaelson, Professor of Ophthalmology at the Medical School and head of the Department of Ophthalmology at the Hadassah University Hospital, accompanied by a nurse, visited Liberia in August this year. The purpose of the visit was to study the need for opthalmic services in this country and to make recommendation for necessary steps to be taken for the establishment of an eye center there.

As a result of this first contact:

(*a*) a Liberian doctor and two nurses will come to our Medical School for ophthalmic training as well as to study procedure in ophthalmic operating theatres.

(*b*) Dr. E. Neuman from the Department of Ophthalmology in Jerusalem, accompanied by Mrs. Neuman who is an optometrist, will proceed to Liberia for a period of one year to help establish ophthalmological services in this country.

III. Ethiopia

Specialized medical care, especially in the field of surgery given in the clinical department of the Medical School to patients from this country, led to the invitation of Prof. A. Beller, Professor of Neurosurgery, by the Government of Ethiopia last year to visit this country with the purpose of making a survey on health conditions there. Prof. Beller submitted a program for the reorganization of medical care in Ethiopia.

As a result of this visit six graduates of the Public Health College and Training Center in Gondar, Ethiopia, recently arrived in our Medical School as medical students. After a period of a year in premedical courses, they will be enrolled as regular students in our undergraduate classes and will be awarded the M.D. degree on the completion of their studies.

This project is the first of its kind in an organized form in undergraduate medical education and was made possible through the help of the Israel Ministry of Foreign Affairs.

IV. Ghana

Close links exist between this country and Israel in the fields of education, construction, industry, etc. Recently we were approached by the Government of Ghana to start a program of postgraduate education in the fields of pharmacy, family health practice and midwifery. Some of the candidates are scheduled to arrive in Israel in the near future.

V. India

Dr. P. K. Devi, Professor of Gynecology and Obstetrics of the Nagpur Medical College, India, spent almost a year of specialized training in the hormone research laboratory under Professor Bernard Zondek in 1958–59. Two other young family doctors from India spent a few weeks of training in public health recently.

VI. Guatemala

Recently, Dr. M. Prywes, Associate Dean of the Medical School, was invited by the San Carlos University of Guatemala for the purpose of investigating and reorganizing the teaching in the medical school as well as to help in the planning of the new building for basic medical sciences. As a result of this visit a number of important recommendations were submitted with the agreement of the Guatemala faculty members as well as the various national and international health institutions acting in this country. The visit of Dr. Prywes was preceded in 1955 by the visit of Dr. K. J. Mann, Director General of the Hadassah Medical Organization. Dr. Mann spent two weeks in this country in an advisory capacity for the organization of health centers.

VII. International Congresses

Two international congresses were organized by the Hebrew University—Hadassah Medical School during the course of this year:

(*a*) 5th International Meeting of Biological Standardization, September 1959; 200 scientists participated from 30 different countries including 3 scientists from U.S.S.R.

(*b*) Epidemiology of Tuberculosis, September 1959; some 150 scientists, including top-ranking experts in the field of tuberculosis participated. They came from 15 different countries—from Europe, U.S.A., and Asia.

APPENDIX B. TRAINING OF FOREIGN STUDENTS AND RESIDENTS IN ISRAEL

I. Undergraduate Students

A. The situation prevailing in our Medical School limits to a great extent our capacity to admit foreign students. The number of applications from abroad amounts to some one hundred per year, and only in very exceptional cases are such students admitted. During the last few years students were accepted from the United States of America, Holland, and the Argentine and Iran. Six Ethiopian students were admitted this year. The limitation for accepting foreign students into our Medical School is due to the following reasons:

1. Despite the high ratio of physicians per capita in Israel (1 to 400 as compared with 1 to 700 in the U.S.A.), there is a tremendous pressure by Israeli youth to study medicine. During the last few years we have been receiving 300–350 applications for admission, out of which only 60 students are admitted yearly. The Hebrew University–Hadassah Medical School is the only medical school in the country and the ratio of admitted students is about 1 to 6 (as compared with 1 to 2 in the U.S.A.). Because of the adopted system of teaching in small groups, the faculty is reluctant to enlarge the number of students.

2. Israel is a country of immigration and among the newcomers there are many medical students who started their medical studies in their countries of origin. On arrival in Israel they look forward to continuing their medical education. To meet this situation, the Medical School has already extended its higher classes from 60 to about 80 to absorb about 120 new immigrant students from Poland, Hungary, Egypt, and Rumania. The influx of new immigrant students is a steady one.

3. Out of the rejected 250–300 Israel candidates, because of the limited number of admissions, about 60–70 leave the country every year to study medicine abroad, mainly in Switzerland, Italy, France, England, and Austria. After spending 2–3 years in a foreign university there is a heavy pressure by these students and their parents to be admitted to one of the classes of the Medical School for the continuation of their studies in Jerusalem and final graduation in our university. These students, as Israeli citizens, repeatedly ask why new immigrant students are admitted while they, born Israeli citizens, are forced to study medicine abroad.

B. We have developed a program of externship especially for medical students from the U.S.A., France, and England who come to Jerusalem for their vacation term. We have 2 to 3 such externs yearly in our preclinical and clinical departments.

II. Interns and Residents

About 30 physicians from many countries are doing their internship in hospitals in Israel. The interns come mainly from South Africa, Latin America, and some from the United States.

The same applies to residentships in different specialties. Here again the majority of the residents come from Latin America, South Africa, and some from the United States of America. Many of these residents remain in the country after their residentship, serving as physicians in Israel for a few years, while others return to their countries of origin.

The teaching hospital of the Medical School is the Hadassah University Hospital in Jerusalem with a capacity of 530 beds and a big out-patient department (200,000 visits a year). For the purpose of internship as well as for the elective months which are part of the clinical curriculum, the medical faculty affiliated 12 large hospitals all over the country that were given the status of recognized teaching hospitals. About 50 physicians from these hospitals have been granted a clinical academic title.

APPENDIX C. OUTLINE OF PROGRAM PROPOSED UNDER THE INTERNATIONAL MEDICAL SCHOLARSHIP PROGRAM

It is suggested to establish within the framework of the Medical School an international medical scholarship program for postgraduate, graduate and undergraduate students from different areas in need of help in medical education. The financial requirements for the implementation of such a program are:

I. POSTGRADUATE EDUCATION		*Total*
20 fellowships of one year duration at $3,300 per annum each		$66,000

The fellowships will be given to clinicians as well as to basic medical sciences workers from various countries for further specialization in one of the 32 departments and laboratories of the Medical School. (The list of the existing departments is given at the end of this appendix). No fees or special costs will be requested by the Medical School from these fellows.

Travel expenses comprising return fare passage from country of origin should be added in each case.[1]

II. GRADUATE EDUCATION		
10 Fellowships of 2 years duration at $3,000 per annum each	$60,000	
10 fellowships of 3 years duration at $3,000 per annum each	90,000	
		$150,000

This program is mainly for residentships of 2–3 years duration for young physicians who would like to acquire their specialization in one of the departments of the Medical School or the affiliated hospitals.

Travel expenses comprising return fare passage from country of origin should be added in each case.[1]

III. UNDERGRADUATE EDUCATION

Because of the difficulties mentioned in appendix B, we should like to limit this program at the initial stage to 5 students only. The medical curriculum is of six years' duration and one year internship. The last year could be done in the country of origin, but some of them, if they so desire, could do it in Israel.

5 fellowships for 6 years' duration each:		
Maintenance: $1,700 per annum per student	$51,000	
Fees: $1,200 per annum per student	36,000	
		$87,000

The fees will cover the instruments and equipment given to the student as well as textbooks. Arrangements will be made to place the students in the University Student Hostels.

Cost of passage from country of origin to Israel and return should be added.[1]

[1] Not included in cost estimate.

The following are the departments and laboratories acting within the framework of the Medical School:

Pre-Clinical.—Anatomy, Histology and Embryology; Psysiology; Biochemistry (including Nutrition and Microbiological Chemistry); Bacteriology (including Virology); Clinical Microbiology; Parasitology (including Protozoology, Entomology, Helminthology); Pathology (including Forensic Medicine); Pharmacology; Hygiene and Preventive Medicine (including Malaria Research Laboratory); Social Medicine; Experimental Medicine and Cancer Research; Laboratory of Hormone Research.

Clinical.—Two Departments of Medicine and one Out-patient Department; Chest Disease; Pediatrics; Surgery (including Chest Surgery, Neurosurgery, Orthopedic Surgery, Urology, Plastic Surgery); Anaesthesiology; Gynecology and Obstetrics; Roentgenology; Radiology (Therapeutic Radium Institute); Neurology; Dermatology; Otorhinolaryngology; Psychiatry; Physical Medicine and Rehabilitation; Family Health.

Clinical Research Laboratories.—Cardiovascular and Pulmonary Physiology; Hematology; Metabolism; Renal Function; Experimental Neurology; Experimental Ophthalmology and Physiology of Vision.

ITALY

UNIVERSITA DEGLI STUDI DI PALERMO,
FACOLTA DI MEDICINA E CHIRURGIA,
Palermo, May 26, 1959.

DEAR SIR: I have held a meeting with some professors of this faculty and we have examined your letter of March 12, 1959.

The following is our answer:

1. We will be very glad to receive further publications by this subcommittee.
2. The professors who have been asked by me shall send short publications reflecting their activities in the field of cardiovascular disease, cancer, etc.
3. We agree completely with an "International Public Health and Medical Research Year," to which some professors of this faculty plan to participate.

Waiting further news from you, I remain sincerely yours.

Professor M. GERBASI, *Dean.*

MEXICO

[Translation (Spanish)]

MONTERREY, N.L., *June 18, 1959.*

DEAR SIR: We have received your memorandum addressed to all directors of schools of medicine in the world and given thorough consideration to the concepts set forth, and we believe, as you do, that the only way in which the countries can be brought closer together is through preoccupation with that which constitutes the greatest wealth of every country: the health of its people.

Considering that public health is a problem which must be given indisputable priority, and that it is the responsibility of the schools of medicine to provide professionals with an education rendering them sufficiently able and capable in their field of endeavor, we feel that it is through university institutions that a better understanding in the international field may be obtained and specific projects of cooperation or perfection in the study and solution of the existing large number of medical problems put into effect.

If everyone attends to his own work and if a duplication of effort is avoided, it is possible to conceive that an achievement of the objectives may be close at hand.

Fortunately, the consensus of the directors of the faculties and schools of medicine within the Mexican association is quite similar, and many problems in connection with medical education are already being perceived and solutions of a general nature pointed up; however, I feel that there is a need for more complete evaluation, with the aid of advisors on broadly diversified specializations, in order to basically revamp the methods of the teaching of medicine in Mexico and to adjust it to the dynamics of the concept of health in the realm of practical reality.

I hope that this initial contact may be the opportunity for which we have been wishing and for which you are suggesting joint action in the future on work projects of mutual benefit.

I am taking this occasion to inform you that I have been elected President of the "Asociación Mexicana de Facultades y Escuelas de Medicina" (Mexican Association of Faculties and Schools of Medicine) for the period 1959–1961.

I beg to reiterate to you the assurances of my attentive and distinguished consideration.

Dr. MENTOR TIJERINA DE LA GARZA, *Director.*

[Translation (Spanish)]

NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO,
SCHOOL OF MEDICINE,
University City, April 22, 1959.

DEAR SIR: In your letter received last March 13, you ask this School of Medicine to furnish data relative to the manner in which it will be possible to step up the fight against certain diseases such as cancer and heart disease, etc., as well as also with a view to intensifying cooperation in research on these ailments, and, in particular, to promoting the development of schools of medicine.

As regards this school, its programs focus attention on medical research, but only on certain aspects of these programs, considering that research is properly entrusted to certain specialized institutions in Mexico (Institute of Health, among others).

On the other hand, the campaigns to fight certain diseases are not within the competence of this School of Medicine, but within that of the sanitary bureaus of this country, to which I would suggest that you address your request for the corresponding data.

Very truly yours,

(s) DR. SALVADOR ITURBIDE ALVÍREZ, *Secretary,*
Sección Técnica de Relaciones y Revalidaciones.

THE NETHERLANDS

UNIVERSITY OF LEIDEN,
Leiden, June 25, 1959.

DEAR SIR: * * *

The question concerning the strengthening of cooperation in the field of medical research has since been discussed at several occasions by the members of the Board of the Medical Faculty of the University of Leiden, The Netherlands.

The members of our committee deeply appreciate the fact that you and the members of your subcommittee are considering so sincerely the highly important problems concerning the possible conquest of killing and crippling diseases.

According to our views there are three main ways leading towards improvement of the situation as well on a national as on an international scale, viz:

1. To support financially the numerous symposia, round table conferences and sessions taking place in the United States for the purpose of inviting workers from different countries in the world to take part in the discussions, to be able to confront their own efforts with those of others and to create the psychological basis for a free and honest cooperation.

2. To support financially the related activities of WHO, UNESCO and other official international organizations to enable them to fulfill their duties especially in the fields mentioned in your letter under "international medical assistance."

3. To promote discussions on the improvement of medical education.

This being the brief résumé of our discussion, I am,

Sincerely yours,

P. J. GAILLARD,
Dean of the Medical Faculty.

NEW ZEALAND

UNIVERSITY OF OTAGO,
MEDICAL SCHOOL,
Dunedin, August 22, 1959.

DEAR SENATOR HUMPHREY: * * *

I should first of all like to pay my personal tribute to the generosity which we have already received from agencies in the United States. Many of our young graduates have greatly benefited from travel and educational grants received from institutions such as the Rockefeller Foundation, Fulbright fund, Carnegie Foundation, and many other private sources of help. Recently too the postdoctoral research fellowships of the United States Public Health Service have enabled some of our graduates to study at your National Institutes of Health at Bethesda. American drug firms, too, have played their part and two most distinguished American physicians, Professor Maxwell Wintrobe and Professor Robert Kark, have visited us as Pfizer lecturers.

The Otago Medical School is the most southern medical school in the world and the only medical school in New Zealand. It is 80 years old and takes in 120 students a year. Besides routine teaching, the school does a good deal of research and units of the New Zealand Medical Research Council are housed here. Professor Sir Horace Smirk's hypertension research unit is world-famous and we have workers coming here from other countries, including the United States, to work in his department.

Active research is also going on in thyroid disease, arteriosclerosis, virus diseases, bacterial genetics, the metabolism of acid fast bacteria, etc. Under the stimulus of our recent professor of physiology, Sir John Eccles, this university has become an important centre for the study of neurophysiology. We also undertake research activities in the Pacific Islands which come under our sphere of influence. A large hydatid research unit is attached to the school. We have almost constantly at the school representatives from Eastern countries studying under the Colombo Plan.

You will see, therefore, that we are trying to do what we can, not only to carry on research and medical education ourselves but within the limits of our resources we are trying to help others.

What, you ask, can you do to help us?

One of the real problems of a dean is to find money to send young men for special training. In spite of the generous facilities available from your country we still cannot finance a trip for many of our best people. What I should like to have would be a certain annual sum which I could use at my discretion, e.g., to send John Brown for 6 months to Chicago to learn exfoliative cytology; to send Frank Smith elsewhere to learn the technique of renal biopsy or somebody else to a special world conference on endocrinology at Atlantic City. Many of these visits do not fall within the conditions of various current grants and fellowships but they are of vital importance to an isolated school such as this.

You might also be prepared to consider grants to allow young graduates to study in other countries apart from the U.S.A. It sometimes happens that this is desirable in special subjects.

Other ways in which you could help medical schools would be by occasionally providing articles of scientific equipment made by U.S.A. firms and not available without the provision of dollar funds. Repeatedly we find that the only really satisfactory equipment is made in the United States and it is difficult to persuade governments to allot dollars for this purpose.

Medical textbooks and medical journals have greatly increased in cost over recent years and in an isolated situation, such as this university finds itself, the provision of a comprehensive library is very essential. You could help in this direction.

I hope that some of these suggestions may be helpful. I am leaving New Zealand next week to attend the 2nd World Conference on Medical Education in Chicago. My own university is paying my fare to and from the U.S.A. and I have a Rockefeller Grant to allow me to travel within the U.S.A. and Canada for 3 months to have a good look at medical schools. This is itself a good example of helpful cooperation. If any of your officers would like to discuss problems with me personally my address in U.S.A. will be: c/o American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., U.S.A.

I would prefer my remarks to be considered as private.

Yours very sincerely,

EDWARD G. SAYERS,
M.D., F.R.C.P., F.R.A.C.P., F.A.C.P., D.T.M. & H.,
Dean of the Faculty of Medicine.

PANAMA

UNIVERSITY OF PANAMA,
SCHOOL OF MEDICINE,
Panama, June 25, 1959.

MY DEAR SENATOR HUMPHREY: * * *

After lengthy consultation with the Rector of our University, with different members of our Faculty of Medicine and with the Committee on Medical Research of our School of Medicine I would like to make the following statement in reply to your recent letter.

The only medical educational center in the Republic of Panama is the school of medicine of the University of Panama and it is reasonable, therefore, to expect that around it a well-established program of research is under way. In spite of the fact that well-trained and qualified men are professors in the basic and clinical sciences no fundamental research program has been carried out because of the following reasons:

1. Our school was founded nine years ago and our main objective has been, up to two years ago, to organize teaching in all our different departments. This I think has been more or less accomplished within our financial limitations. However our research committee has been helpless to carry out any organized plan because of lack of funds.

2. The appropriation for the school of medicine is $100,000 per year granted by the Panamanian Government. No endowments of funds from private enterprises, either national or international organizations, could have been obtained in spite of our efforts. The only response we have had has been from the Kellogg Foundation in the form of fellowships for our young graduates.

3. As result of our limited budget most of our professors, with the only exception of the Professor of Anatomy, are part-time due to the low salaries we are able to offer them. This means that a great deal of their time is spent in extracurricular work with no time for research.

4. Assistants and technicians are also part-time due to low wages.

5. Our laboratory equipment is satisfactory for teaching and for a very limited amount of research.

6. The physical facilities for clinical research are obsolete and no improvement is in sight due to the precarious fiscal situation of the country.

At present we are trying to see if in the next session of Panama National Assembly our appropriations could be increased at least by $50,000 in order to place most of our basic sciences personnel on a full-time basis so that they can dedicate themselves exclusively to teaching and research. If we can obtain this it will only solve part of our problems because there still remains the unsolved problem of clinical teaching and research. We must totally improve physical facilities at Santo Tomas, our only teaching hospital, if we want to stimulate our clinical professors in giving up private practice and dedicate themselves to teaching and research.

This is in summary our situation, Senator. Do you think your subcommittee may be able to assist us? Panama is a virgin field for medical research especially in such matters as viral diseases, atherosclerosis in our various ethnical groups, nutritional problems, endocrinological aspects in respect to climatic conditions, etc. I should think that any assistance that you can give us will be of tremendous importance to us.

Looking forward to hearing from you, I am

Sincerely,

ANTONIO GONZALEZ-REVILLA, M.D., F.A.C.S.,
Dean of the School of Medicine.

SOUTH AFRICA

WERNHER & BEIT MEDICAL LABORATORIES,
Cape Town, May 14, 1959.

DEAR MR. HUMPHREY: I wish to thank you for your letter and the enclosed committee print. Your letter was passed to me to answer since Professor Brock has left on a visit to Great Britain and the United States of America. Dr. Bronte-Stewart and I have studied your report with great interest and hope our reply will be of some help to your committee.

With regard to the two basic questions:

(A) What can and should be done to speed the conquest of universal disease, such as cardiovascular ailments, cancer, neurological, mental, and other disorders?

I would draw your attention to one extremely important factor which will be of aid in dealing with such universal diseases, namely, the real need for some measure of agreement on nomenclature and in the descriptive reporting of medical projects in order to permit valid comparisons to be made. It is quite apparent to many of us working in the same medical field that there may be no agreement as to what is represented by a particular descriptive term. Different workers in various parts of the world may be referring to the same condition under different headings.

Furthermore, in comparative studies on many a widely distributed condition, the establishment of uniformly acceptable criteria may be advantageous. In South Africa a commonly encountered form of liver disease is referred to by many as "bantu cirrhosis." This could, by agreement, be defined clearly so that the reporting of such cases in one centre would at least be capable of comparison with the reporting in another centre. The same criteria might be applied to epidemiological studies and field surveys, e.g., in ischaemic heart disease, the grading of the intensity of atheroma and so forth.

I would like to draw your attention to your maps following page 117 of your enclosed committee print. It will be evident that the African continent stands out in sharp relief to Northern Europe and Northern America in that a single centre is ringed for the whole of the African continent. This is an indication as to where help is needed. It should be noted, however, that in South Africa there exist several centres at which active research is carried out. In Cape Town our activities on an active research centre are attested by the appended list of publications. These give some indication of the quantity and the calibre of work done at this school. A welcome recent visitor, Dr. Paul Dudley White, will be able to report on this aspect.

I would stress that we are located at the southernmost tip of a vast continent and despite the revolutionary changes in transport we are relatively isolated. The United Kingdom, Europe, and America enjoy the stimulus of scholars and workers passing constantly to and fro. We, however, are at the end of a limb and in order to make contact with the other centres participating in medical research we have to traverse the full length of this continent, some 5,000 miles, before we reach the European centres. As you will see, this limits our contacts with Europe and Northern American centres very greatly indeed and handicaps our developments.

I would, therefore, urge that in the case of the African continent, very real consideration be given to aid those centres which have proved themselves by making it possible for not only relatively senior workers but, much more importantly, the men of the future—bursars, biochemists, and pathologists to meet and exchange ideas with the workers in the older established schools of North America and Northern Europe.

(B) What can and should be done in particular to strengthen developing nations, in Asia, Africa, the Middle East, and Latin America in conquering infectious and other diseases?

Although infectious diseases are still a major problem in the southern part of the African continent, the whole picture is materially coloured by malnutrition and interrelated with poverty, and I would imagine these remarks apply to other underdeveloped areas. Thus, although active programmes for combating infectious disease may be instituted, the basic preliminary step should be the conquering of nutritional disease (with its accompanying economic factors and the ignorance of efficient agricultural methods).

At the same time, however, it is from these undeveloped countries, where certain diseases are more prevalent (e.g., primary carcinoma of the liver) and others (e.g., ischaemic heart disease) are relatively rare, that material contributions have been and will yet be made to advancing knowledge. The support of research programmes in these areas is to the benefit of the American and European populations.

In answer to your memorandum (A) question (1):

(A) Sample questions of interest to the Senate subcommittee studying international health:

(1) Do you have any reactions as regards strengths or weaknesses of specific existing health programmes of United States Government agencies?

It is extremely difficult for an outsider to comment on this question except insofar as to make the observation that research work done outside the U.S.A. may be of benefit to the citizens of America. Dr. Bronte-Stewart in acknowledging the leading role of the United States in promoting research in foreign countries feels that the United States public health grants are too rigid in their specifications, viz., allocations to items—technicians, consumables are fixed. No provision is made for apparatus, and insufficient labile money makes administration difficult at remote distances.

(2) What in your judgment would be the best ways of accelerating sound medical research and cooperation throughout the world?

In our judgment, the best way of fostering medical research throughout the world is the free and frequent interchange of medical workers of different countries. For the younger less experienced research worker this should be instituted initially by the movement mainly from the undeveloped countries to established centres where these young workers can receive their basic training and, in particular, experience the levelling effect of critical discussion. Furthermore, we would suggest that we have much to offer to the workers of the old and new worlds in that they will be able to study conditions and explore the opportunities created by the particular clinical material, e.g., experiment of nature, i.e., races subjected to different environmental factors over a lifetime and gain an appreciation into our difficulties and also a realisation of the high standard of work in active centres, such as ours and the potential opportunities for the study of certain chronic disease which show interracial differences in prevalence in our community. We would welcome the opportunity of having workers from the United States of America. In fact we have one young American who has been with us some two years.

As in any expanding and active group there are likely to be periods of financial stringency, particularly when it comes to the purchasing of expensive equipment. Although it may be felt that financial assistance in such areas may be abused, insistence that such assistance, if it be provided, be provided to those schools that have shown they are capable of using such equipment or such assistance in a correct and proper manner.

(3) Conversely, what do you feel are the major obstacles to expand world medical cooperation?

Quite obviously national feeling and language barriers play a part, but in the course of time it is hoped that these factors will become less important. The major obstruction is unquestionably the lack of personal contact between workers of different races and, as already pointed out, this is very truly a matter of finance and distance.

(B) Current congressional activities of interest:

The establishment of a national institute of international medical research is certainly a step in the right direction and will be a most effective addition to your NIH at Bethesda. It should help materially in solving some of the questions raised in (A). Likewise any assistance to strengthen research facilities is a welcome one.

(C) Senate subcommittee publications available to you:

I wish to acknowledge your committee print number 1 and will be grateful for your other committee prints.

For your information I have appended a brief statement of the strategic importance of Cape Town in the medical research field.

Yours sincerely,

L. EALES,
Acting Head of the Department of Medicine.

THE STRATEGIC IMPORTANCE OF CAPE TOWN IN THE MEDICAL RESEARCH FIELD

The faculty of the Department of Medicine has eight senior full-time physicians, all of whom have had some of their postgraduate training in the United States and the United Kingdom; a large part-time physician staff; and full-time senior residents and interns. There are 250 general medical beds at our disposal, namely, at Groote Schuur Hospital (1,000 beds), so that we have adequate hospital and laboratory accommodation and this is rapidly expanding. We have, through our own efforts in this part of the world, raised through public appeal sufficient money to build a three-storey block of research laboratories but our own immediate problems are ones of equipping and meeting the very heavy running expenses of this active and expanding institution.

Here in Cape Town we are in a unique position in that in a relatively circumscribed geographic locality we have three ethnic groups—the White, the Bantu, and the Cape Coloured. The White group approximates closely to the North American and Northern European White group with its high standard of living, its disease pattern and Western culture. The Bantu on the other hand comes of a primitive semipastoral people who are only now for the first time feeling the impact of industrialisation. In between these two groups we have the Cape Coloured people who resemble very closely the lower income groups of the White races. It should be stressed, however, that *these three races are free from the impact of tropical diseases and, in fact, this is the only centre with full medical facilities in Central and Southern Africa, where the three races can be studied without having the picture complicated by tropical disease.*

It should be evident that exploitation of this natural experiment can be of immense benefit to other parts of the world, e.g., coronary thrombosis and myocardial infarction are virtually unknown in the Bantu in Cape Town while, on the other hand, side by side live the White races with a prevalence as high as North America. The Cape Coloured come into an intermediate group. The establishment of the reasons for these differences would assist materially in combating ischaemic heart disease—the present great scourge of Western civilization. At the same time, however, there are diseases in the Bantu which are peculiar to them, e.g., primary carcinoma of the liver. On the other hand, cancer of the stomach is rare.

Furthermore, in this country we have amongst all three races a very high incidence of porphyria, possibly the highest in the world. As a result of our work here, we have shown that the disease as seen in the White and some of the Coloured patients is inherited as a mendelian dominant, whereas a disorder resembling in many respects that of the White man is not inherited but is possibly related to liver dysfunction. It is a problem which needs urgent support since it is a disorder which gives rise to considerable morbidity and it does not manifest itself until adult life; hence, marriages occur and children are born of porphyric parents before they realise that they have the disorder.

Kwashiorkor is commonly encountered in the Bantu and the Coloured children in this area. Again, it should be noted that we are able to study kwashiorkor in an environment free from the complicating effects of tropical disease. This has been Professor Brock's special interest and this school has made major contributions in this field. More recently work has been extended to adult protein nutrition.

These are some of the problems we have to face. Although we have had material help from our own Council for Scientific and Industrial Research, further assistance would be welcome. I trust that this will have given you some insight into our problems in this part of the world.

UNIVERSITY OF THE WITWATERSRAND,
MEDICAL SCHOOL,
Johannesburg, August 25, 1959.

DEAR SENATOR HUMPHREY: * * *

We feel ourselves in entire agreement with the sentiments expressed in your letter and we note the direction of the preliminary negotiations being conducted by your subcommittee with your Senate and very much look forward to receiving further communications and United States Senate publications.

At this stage we feel that we should limit our comments on cooperation in research and education to general terms, and later we will be glad to convey more detailed information to you through reprints and other measures.

In the geographic ambit of our Medical School we have a variety of ethnic groups which have provided, and will continue to provide, opportunity for research into such fields as cancer, heart disease, vascular disease, nutrition, sociology, psychological medicine, public health and anthropology, all of which present peculiar problems of incidence of pathology and clinical pictures. A specific peculiarity in the multiracial grouping in our area is the impact, physical and mental, of urbanisation and industrialisation on the more primitive peoples. The value of these opportunities for study in education is self evident.

The facilities, both from a research and an educational standpoint, have by no means been exploited to the full, in spite of there being many workers busy here at present who are competent to take the work. We would welcome cooperation and collaborative team work from the United States and, for that matter, from all interested sources including the World Health Organisation.

Those of us who have had the privilege of studying medical problems under the auspices of the World Health Organisation in your country and elsewhere are fully appreciative of the wonderful contribution which the organisation has made.

We await your further communications with deep interest and pleasurable anticipation.

We shall proceed to collect such data as our faculty may think useful to you in your deliberations.

Yours sincerely,

GUY A. ELLIOTT M.D., F.R.C.P.,
Dean of the Faculty of Medicine.

UNITED KINGDOM

UNIVERSITY COLLEGE OF LONDON,
DEPARTMENT OF ANATOMY,
London, July 20, 1959.

DEAR SIR: The medical faculty of University College, London, is naturally greatly interested to hear of the proposals for world medical research sponsored by the United States. The college with its long tradition of medical research is perhaps in an especially good position to know the problems and opportunities in this field. We are impressed with the importance of investigations of the problems of the basic mechanisms for control of the human body in health and disease. Should the committee wish to sponsor investigations of this type in London, the faculty would, I am sure, be anxious to cooperate.

There is a special need for the finance of young investigators to work in the well-equipped laboratories of the faculty and we believe that money spent in this way would bring an excellent return for the health of mankind.

Yours faithfully,

Professor J. Z. YOUNG, M.A., F.R.S., *Dean.*

UNIVERSITY OF OXFORD,
Oxford, March 23, 1959.

DEAR SENATOR HUMPHREY: Thank you for your letter of the 11th March, 1959.

In answer to your questions (a) and (b), I think in the broadest sense the United States of America can best help medical research throughout the world, by using your immense financial resources to provide scholarships and travel grants to enable research workers in this country and others to travel to the centres of their choice. So often, research is impeded because funds are not available to enable workers to study the newest techniques abroad. The question of cooperation among medical schools is more difficult, but here again if moneys are available to enable teachers to visit one another to study new methods of instruction, much benefit can ensue.

Yours sincerely,

J. BADENOCH, *Director of Clinical Studies.*

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7. NOBEL PRIZE WINNERS

Senator HUMPHREY. One of the many important groups who have cooperated is the distinguished group that has won one of the most coveted, if not the most coveted, award in the scientific world—the Nobel Prize. Many of these great scientists are included in the chart reproduced at page 713.

The interrelation of our own National Institutes of Health and several of the Nobel Laureates may be seen in the following article from The New York Times of November 1, 1958.

U.S. FUNDS AIDING NOBEL LAUREATES

THREE SCIENTISTS, MEDICINE PRIZE WINNERS, BACKED BY RESEARCH GRANTS

WASHINGTON, November 1.—The three American scientists who won the 1958 Nobel Prize in medicine Thursday were assisted in their research by financial support from the Federal Government.

Over the last several years the three have received $334,018 in research grants through the National Institutes of Health to carry on the work in biochemical genetics for which they have been honored. The National Institutes of Health is the research arm of the Public Health Service.

The scientists are Prof. William G. Beadle of the California Institute of Technology, Pasadena, Calif.; Prof. Joshua Lederberg of the School of Medicine of the University of Wisconsin, Madison, Wis., and Prof. Edward Lawrie Tatum of the Rockefeller Institute in New York.

This is not the first time that U.S. Government-supported research has won a Nobel Prize, but the latest award, in the opinion of research officials, illustrates two points about the role of Government in science.

One is that, despite the self-criticism that followed the launching of the first Soviet satellite more than a year ago, the U.S. Government has been supporting much fundamental scientific research with profitable results. The National Institutes of Health has consistently had larger appropriations from Congress for research than the administration has proposed for it.

The other point is that, with the growing complexity and cost of modern research, some Government subsidization is not only almost inevitable but also is profitable.

Dr. Lederberg, 33 years old, the youngest of the three Nobel Prize winners, has been receiving Government research support for the last 10 years, or during most of his research career.

Over the years, Dr. Lederberg has received $90,890 in research grants and currently has a $13,800 grant from the National Cancer Institute for research on the genetics of bacteria. When Dr. Lederberg received his first grant in 1948, the advisory panel that passed on his proposal termed him "a genius."

Dr. Tatum, at the Rockefeller Institute, has received $113,994 in research grants since 1951. He at present has a $14,145 grant from the National Cancer Institute for research on the biochemical genetics of micro-organisms.

Dr. Beadle, professor of biology at the California Institute of Technology, has received $129,134 in research grants in the last 2 years. He now has a $54,148 grant from the National Heart Institute for research on experimental biology in the field of genetics—a project that is expected to receive Government support until 1961.

Normally such grants go to pay for part of the cost of the research as well as salaries of assistants. The universities or institutes normally also contribute to the cost of the research and pay the salaries of the scientists.

Senator HUMPHREY. I am informed that since 1945, N.I.H. funds have helped finance research by no less than a total of 29 Nobel Laureates.

Through the cooperation of Prof. G. Liljestrand of the Nobel Institute in Stockholm, a list of living recipients of awards in medicine, physiology, and chemistry was obtained. Inquiries were directed to this list. Excerpts of a few of the responses follow.

HEADINGTON, OXFORD, ENGLAND,
November 30, 1958.

MY DEAR SENATOR HUMPHREY: I believe the great majority of scientists would be enthusiastic in principle about U.S. support of medical sciences on an international basis. As it has often been said, a cancer cure from Moscow will be as useful to us as an equally good one developed in the U.S.A. I am personally enthusiastic in feeling that we can do a great deal of good for medical science in this way and at the same time win many friends in other lands.

I have only two reservations. These are not original with me as I have talked with friends at NIH who are much more experienced than I in these matters and they have pointed out these potential difficulties. One is more serious than the other.

The important one first: I know you will agree that it will be important that support be given on a nonpolitical basis. I can see great difficulties if the State Department or any other U.S. Government agency gets into the business of screening potential recipients for their past or present political views. England, France, and Denmark are examples of countries where I know specific instances which would raise this kind of problem. Some are top scientists, in some cases heading important laboratories doing medical research, who have had Communist connections in the past or who still have leanings in that direction.

Some I know personally and I know they now want to be on our side. If we support their work on the basis of scientific merit, they will be more likely to continue to go along with our views. If we exclude them because they do not now, or have not in the past, agreed with us politically, we can hardly expect them to be enthusiastic about our attitude. What's worse, their colleagues and friends with "clean" records will be likely to turn against us too. That, I'm sure you will agree, is not what we want. How to avoid this difficulty, I do not know for sure, but I do know it is a real danger.

I do not feel confident that turning over funds for allocation by the countries concerned is likely to be a complete solution. For one thing our NIH people have had much experience and an outstanding record in allocating funds on the basis of merit and there is much to be said for doing the job internationally on the same basis as we do it internally. If done by nations, would Iron Curtain nations be excluded automatically? If not, which ones would be included and which ones not? Again I'd like to see decisions made solely in terms of merit.

A less important question: Would the Institute for International Medical Research duplicate the staff setup of present institutes. If so, it seems there could be an unnecessary amount of duplication. Could not present staffs, augmented somewhat, do the job efficiently and economically? I'm inclined to think so.

In summary: I'm wholeheartedly in favor if the job can be done without political considerations messing it up. If we start screening on the basis of political views of nations or individuals, I'm very much afraid we'll end up not making any new friends and probably losing a good many we now have.

I shall be very much interested in learning the outcome.

Sincerely,

GEORGE W. BEADLE.

[Translation (French)]

ISTITUTO SUPERIORE DI SANITA,
Rome, April 20, 1959.

DEAR SENATOR HUMPHREY: Thank you for your kind invitation to collaborate with some suggestions in the International Health Study arranged for by your subcommittee.

I was greatly interested in reading the committee print (85th Cong., 2nd Sess.) entitled "International Medical Research", and was particularly happy to find in it the names of many of my colleagues for whom I have the highest regard and whose very personal research is entirely deserving of the encouragement and aid already received by them, or to be received by them, through your intermediary.

It is difficult for me to put into words a reply concerning the enormous problems posed by you. These would lend themselves better to an exchange of views during the course of a possible personal meeting. I am limiting myself here to only a few suggestions.

1. *Research subjects.*—From different sides we have recently been cautioned against the hazards inherent in the rapid growth of the population and the excessive prolongation of the human life span which we are now associating with the recent advances in therapeutics.

I personally feel that the danger is real and that it entails the urgent need for expanding the field of medical research, exclusively to the following:

(*a*) the science of nutrition; the suffering due to famine and malnutrition;

(*b*) genetics;

(*c*) pedagogy and experimental sociology (which we like to call the "sciences of man").

The growth in population numbers could proceed without danger only if it were accompanied by a simultaneous improvement in the quality or in the physical and intellectual level of this population.

I therefore dwell on what in your program touches most particularly on the physio-pathology and pharmacology of the nervous system; and on animal psychology and the aspects of experimental animal sociology, in their relation to the treatment and cure of mental disease.

Original solutions can be found only by extensively calling upon basic research in the fields of the natural sciences: general biology, botany, and zoology—the vital importance of which, it seems to me, is not sufficiently understood at the

present time, and research on the subjects does not always receive the necessary encouragement and aid.

I am sure that it would be better policy to devote to biology a considerable portion of the funds allocated to the enormously large institutions engaged in the fight against cancer or heart disease, for example; programs which are too narrow run the risk of also being found too short-sighted to serve their purpose.

2. *Financing of research.*—The difficulties with regard to financing are still in many countries the major obstacle to the development and extension of research.

In this respect, despite the great efforts it has put forth, Italy is in a plainly less privileged situation than the Anglo-Saxon countries.

The fact of the matter is that the slender budgets of most institutions place a drastic limitation on the numbers and salaries of the scientific personnel which they should have.

The aid contributed by scholarships and research fellowships is frequently only an inadequate palliative, considering the difficulties encountered by the young people when they come back home and attempt to embark on a career of pure research.

Efficacious progress cannot be made until an improvement in the general economic situation permits the development and establishment of new, permanently staffed institutions.

3. *Internationalization and exchanges.*—I shall take the liberty of voicing a few critical remarks on the manner in which only too often, and more and more frequently, the private and public funds destined for research, particularly on the so-called international level, are being handled.

My personal feeling is that the present level of international symposiums, congresses, travel subsidies, and exchanges of persons is highly adequate at this time and maybe even excessive, the only exceptions being—probably not for long—as regards Europe, the relations with the U.S.S.R. and the Far East.

Furthermore, an expansion of organized research on the international level, in my opinion, runs the risk of being counteracted by (*a*) a series of unproductive expenditures; (*b*) a notable decrease in the time which the researchers will be able to devote to their own research; and (*c*) the fact that an accentuation of the technical aspects of research will be unfavorably offset by a loss in the originality of a piece of research and, by a possible multiplication thereof, would render it practically useless, owing to the fact that the findings to which it would lead might or would have been obtained almost simultaneously in several countries.

I might cite the case of institutions which are engaged—in Latin America, in the tropics, or in Central Europe—in research activities strictly identical with what is being done—with identical equipment—in London or in Oxford. As for myself, I have no doubt that, in both cases, studies which would have turned the local resources to good advantage or been conducive to answering strictly national problems might have been not only more original but also more profitable.

You ask, what are the major obstacles opposing the cooperation of scientists and scholars of all countries?

I should be tempted to answer that there has always been such cooperation—one need only consider, in order to become convinced, the variety and number of correspondents of Galilee, for example.

And in our day and age, all really effective and fruitful cooperation continues to be achieved essentially by the simple reading of scientific and scholarly periodicals, and by the exchange of abstracts and letters, and—by way of exception—by visits arranged through a previous exchange of correspondence.

In sum, there is cooperation practically always when there is a real need for it, on the personal level and often beyond the scope of international organizations.

Though it is true that certain meetings and certain personal contacts may play an important role in the genesis of a discovery, it is always a question of a slowly developed personal relationship between teacher and student, and almost never one of hurried get-togethers while attending congresses or traveling.

Are you sure that your commissions, which must provide a young traveler with the necessary funds to make a tour around the world, will have each time, prior to taking a maturely considered decision, a sufficient number of professors, who will be taken away from their work, and of laboratory workers whose research activity in all those countries will be interrupted by that sudden visit?

4. *Scientific awards.*—The important scientific awards, such as those set up

by the Nobel Foundation in 1895, represent both a powerful research stimulant, a form of propaganda among, and education for, the entire population, and a national encouragement for the countries on which they are bestowed.

As concerns the beneficiaries, these awards often represent an act of justice for they constitute a recognition of intellectual property, since in the great majority of cases they are compensation for discoveries which, contrary to industrial inventions or literary or musical works, are not protected by copyrights or patents.

It has been emphasized on several occasions that, for example, there is no Nobel Prize for mathematics, psychology, or philosophy, or, equally regrettable, for the natural sciences, which are all lumped together in the single award for "Physiology and Medicine," which, practically, also covers biochemistry. Thought might be given, possibly in accord with the Swedish Nobel Foundation, to a reexamination of this question.

Patterned after the royal pensions, which were enjoyed by the philosophers, naturalists, and artists of the 17th century, the establishment of prizes might be contemplated consisting not of a lump sum, but of annual payments, which would represent a form of award better suited to its purpose and would relieve the researcher, partly at least and insofar as possible, from his immediate material worries.

5. *Training of researchers.*—We must take the following facts into account:

(*a*) Original thinkers have always represented a minority in relation to the total population;

(*b*) The present conditions of our educational system, in which the social life plays a preponderant role, seem, relatively speaking, not very favorable for the blossoming forth of genius;

(*c*) The mind of the researcher is shaped or mis-shaped before he reaches adolescence, probably between the ages of 10 and 14 years;

(*d*) Out of the small number of born researchers, a considerable proportion is now drawn to the physical rather than to the biological sciences.

My recommendations would be for the adoption of measures, for example:

(*a*) *Concerning the school age.*—Expanded instruction in the natural sciences, together with initiation into laboratory work and encouragement of personal initiative; establishment of school libraries, easily accessible and richly endowed also with books seemingly beyond the school age level;

(*b*) *At the university.*—Offering ample opportunity for training and recruitment of personnel needed in medical research, rather more in the schools of science than in the schools of medicine.

In many countries the teaching of medical illustration seems to be negative from the viewpoint of original research.

I mentioned earlier the importance which I attribute to research in the different domains of the natural sciences.

I hope that the preceding few remarks will at least partly answer the questions which you posed to me.

Please excuse their apparently critical and paradoxical character, which could be attributed only to the relative briefness with which I found myself obliged to reply to the enormous and important problems raised by you. I have no doubt that you may receive quite different answers from other parties, and I am sure that their very diversity will bring forth something of use for your inquiry and the generous goal which you have established for yourself.

Please accept, dear Senator, the expression of my respectfully and cordially devoted sentiments.

DANIEL BOVET.

SIR WILLIAM DUNN SCHOOL OF PATHOLOGY,
UNIVERSITY OF OXFORD,
April 21, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for your letters about the extremely generous action which your country proposes to take in the field of medical research.

After many years I have come to the conclusion that extremely little of value is really initiated by committees. In the last analysis the best work in medical or any other research is, in my opinion, always traceable to one or two individuals in any particular instance, and they have been successful in their pursuits because they have been supported. Some, of course, are successful even

though inadequately supported, but I feel that the volume of new discovery which might have application to medicine would best be increased by seeking out in all countries of the world, and possibly most profitably in Western Europe, men of ability, and supporting them to pursue their researches in as unfettered a way as possible. I am sure that by this means some of them may well produce results of the greatest importance, though of course some will not fulfill their promise.

I feel that in this connection perhaps we have our values a little wrong. I imagine no one in your country gets very upset if a rocket does not go off successfully at Cape Canaveral, although such an experiment no doubt costs several million dollars. How much more difficult is it to be 100 percent successful in choosing human material.

I feel that the success which would be sure to come by supporting bright young individuals would more than outweigh any failures due to poor selection.

In short, I would prefer myself not to propose any fields in which research should be done but to place emphasis on men.

If such a policy were adopted even with part of the enormous sum of money which you are proposing to devote to medical research, I should be glad to advise you as to how to set about finding men on whom to spend the money.

With best wishes,

Yours sincerely,

H. W. FLOREY.

ZURICH, *May 11, 1959.*

DEAR SIR: I thank you very much for your letter of March 6 and for your trust in my judgment. Of course, I am glad to give you my view on "what specific steps should be taken to strengthen medical research throughout the world."

In my answer, I shall confine myself to that special field of medical research in which I have taken part actively; i.e., the functional organization of the autonomous nervous system and the central nervous system (including psychophysiology.)

It is no news that research being done on an ever increasing scale continues to yield a correspondingly growing number of facts, and as a consequence the problem of overspecialization of the individual research worker has arisen. Even in one's own special field, one is hardly capable of getting a comprehensive survey of all the important data. However, it would be a mistake simply to try to oppose further specialization; for in accumulating more and more data the basis of every science is broadened. But all the more necessary becomes a forceful attempt toward a systematic synthesis, which puts the facts into order according to functions. Biological sciences must not end up with a mere sum of innumerable individual data. Whatever factors or events are found, they form part of an organic system, the integrative and integral functioning of which ought to be investigated much more intensely than is done nowadays. Only as far as we succeed in analyzing and resynthesizing those interrelationships and correlations shall we be capable of putting each individual fact into its proper place in the whole and thus only shall we gain true systematic knowledge and insight into the complicated order of processes incessantly going on in a living organism under normal, nonexperimental conditions. To understand normal life processes, not those going on in laboratory preparations, is the ultimate aim of physiology. What is needed is a comprehensive theory of biology, based on sound principles and on a thorough knowledge of relevant facts. Then, and then only, we may avoid the threat of different disciplines diverging hopelessly with ever growing speed.

Research workers set for analytical work exclusively will probably object to this because they still dread the danger that theoretical biologists might not be content with putting established facts together into a working system but might proceed to uncontrolled and uncontrollable speculation. But just in order to avoid this latter kind of thinking which always has proved impedimental to scientific progress, it is necessary to encourage and aid those who aim at a truly scientific synthesis. There are already more or less tentative attempts in that direction but they are largely neglected by the experimental workers. He who still is doubtful about the value of such type of work may consider the certainly enormous contributions theoretical workers have made and still make to the progress of physics. It is pure prejudice to assume that in biology the situation is fundamentally different from that in physics, and that therefore similar progress from mutual cooperation between experimental work and theoretical thought should not be expected.

There is another important possibility in how to speed up scientific progress: It is true, as can be read in the compilation of background materials enclosed with your letter, that scientific research knows no geographic boundaries. But there exist the language barriers. Translation programs are certainly very valuable, but I feel it impossible to share the view taken in the compilation (p. 72) that it is asking too much of the scientist himself to acquire some knowledge of foreign languages. In my opinion, every scientist should be able to read publications in his field of research in at least two foreign languages. The trouble with translations is that the translator generally has not the intricate knowledge of the problems involved which would be necessary to give a really satisfactory translation.

A further point of view, and a very important one it seems to me, is the problem of what will be eligible for translation. Who is going to decide what publications in foreign languages are worth the work and expense of being translated, let us say, into English? For it seems to me out of question that the enormous amount of scientific results published month by month could ever be translated satisfactorily without exemption. Hence, there has to be a selection, and who is to do the selecting? Need it not be the specialist himself for whose use the translation is said to be prepared? He only would have a proper judgment on that. Translations can be very useful in general publications after review by competent scientists who read the original and agree to its importance. Translations never can solve the problem of the specialist reading for information in his own special field. What is of the utmost interest to him may yet be almost without any interest to his fellow worker in the same field but with a slightly different set of problems. Before investing large sums of money into a translation program which is almost sure to fail to meet the special needs of those whom it is meant to aid, it would be far better to spend this money on giving young scientists some linguistic training.

I hope sincerely that these few hints will help you a bit. Of course, I shall always be glad to answer more specific questions in detail if you feel this might be useful.

Yours truly,

Dr. W. R. HESS.

INSTITUUT J. F. HEYMANS,
Ghent, May 4, 1959.

DEAR SENATOR HUMPHREY: Returned from a visit of China, I am glad to answer the questions of your kind letter of March 6, 1959.

What specific steps should be taken to strengthen medical research throughout the world?

I think that one of the best steps would be to give full support to the new medical research program of the World Health Organization. Duplication of this program would be harmful. The research program submitted by the committee of experts seems excellent and ought to be very efficient.

I think that it would also be very efficient to give large financial support to the international scientific unions, mainly the International Union of Physiological Sciences and the International Union of Biochemistry. These unions could then work out a more active program of international meetings (symposia), of fellowships, of publications (mainly abstracts in their respective fields), and of exchange-visitor programs, etc.

Enlarge the financial support program, mainly the bloc grants to active and efficient groups of researchers all over the world, in the frame of the National Institutes of Health, in Bethesda. These grants ought to enable also to increase the staffs involved in notable research projects abroad in the fields of basic and applied medicine.

Organizations mainly involved in the training of young research workers ought to receive large support. Let us, indeed, never forget that good brains are more important for research than money for equipment.

Comments on strengths or weaknesses of U.S. Government medical-biological research programs

The strengths of the U.S. Government programs are the large amount of financial aid available and the careful selection of aid grants to individuals or groups involved in research programs. But, in my opinion, the aids are too often scattered without enough coordination of the research programs in large and

important fields, and without enough contact between the workers involved in these programs. Grants are also too often given to younger investigators with the obligation to publish results too early. A too large amount of these young investigators then specialize too early in a too narrow field and feel obliged to publish incomplete work. A larger training before specializing in a narrow field would be much more efficient for further fruitful work.

Judgment on the major obstacles to cooperation among scientists of all nationalities, and how these obstacles may be removed

One of the obstacles is the language, mainly in publications. In some large areas, nationalistic feelings oblige the scientists to publish their work in languages not available to some other large areas. Publications and journals in Russian, Chinese, Japanese, and perhaps soon in Arabic, are not understood by most of the scientists of other large areas. These obstacles could be removed by arranging for at least a summary in English to be added to papers published in those languages. Also papers published in French, Italian, or Spanish, ought to include a summary in English. The amount of journals is also increasing tremendously in all countries and areas. It would, thus, be necessary to organize good and full abstracting bodies and journals for the different important fields of basic and applied medicine. Political reasons also are major obstacles to the cooperation among scientists. Some areas of the world are, thus, practically isolated from the others, and contact and cooperation among scientists of these different areas is very limited. These political obstacles ought to be removed, and more and better contacts and cooperation between scientists of all nations ought to be largely promoted.

International symposia, visiting teams, visiting professors, exchange of teachers and research workers ought, thus, to be organized on a larger scale.

I am glad to offer you some suggestions and observations you may use freely.

With all good wishes, I am,

Sincerely yours.

Dr. C. HEYMANS.

PHYSICAL CHEMISTRY LABORATORY,
Oxford, April 18, 1959.

DEAR SENATOR: You were good enough to ask me for my views about the question of the means by which medical research in the world can be most helpfully stimulated. This is a large matter and I am no medical man though I have now talked to some colleagues about the matter and of course I have spent most of my life at chemical research in which after all the basic problems of discovery and application are very similar in many essential respects.

Above all I feel that the boards, committees, and other authorities controlling funds should not attempt themselves to formulate the problems in too great detail, or to direct the researches. They should look for centers of investigation where talent and inspiration seem to exist and then feed these centers with appropriate help.

All my life I have seen able people frustrated because they could not obtain funds to do what they needed to do while they were embarrassed with offers of funds to do quite unsuitable things or things for which they had no special inspiration. In its application to medical research I think this principle would mean that you might waste a great deal of money asking quite competent but not specially inspired people to work, for example, on cancer while another laboratory which has just discovered, for example, a striking new phenomenon concerning the action of antibiotics is unable effectively to follow it up.

A high-level authority disposing of large funds naturally thinks of ends rather than means. But scientific progress does not seem to work by formulating desirable ends and then asking someone to find the means to attain them. It works generally in quite a different way. An investigator makes an observation and has the intuition to see that it can be followed up in this or that useful direction. This is the stage at which the authority which can provide help most usefully intervenes.

I am sure these principles are extremely well known to my American colleagues and you have no doubt heard them before, but as you were good enough to write to me you may care to have this confirmation of what others will have said.

Yours sincerely,

C. N. HINSHELWOOD.

UNIVERSIDAD DE BUENOS AIRES,
Buenos Aires, Argentina, March 25, 1959.

DEAR SIR: I am glad to answer your kind letter of March 6, 1959. My reply shall first include certain opinions about the status of international medical research which shall then be followed by my recommendations regarding the proposals put forth in your letter.

1. Medical research is advancing rapidly and is producing a revolution, by prolongation of life, relief of suffering, increase of health and physical and mental abilities.

2. The United States has the leading position in the present world.

3. Today the United States has a prominent position as a center of discoveries and development of science, but some great and significant discoveries are made also in many different places in the world.

4. The insufficient knowledge of the achievements made abroad not only does not allow the utilization of important discoveries, but also develops in many countries the attitude of a lack of justice or disdain by the Americans in the appreciation of their contributions.

5. There is an almost universal feeling that the most advanced countries have a moral obligation and responsibility in the promotion of the advancement of the backward or less advanced countries. The feeling is deeply rooted in your neighbor countries of South America.

What can be done

1. The organization of a U.S. National Institute of International Medical Research deserves my complete approval. It can aid in research projects abroad, in improvement of the most promising men, in support of international symposia, and in collecting and disseminating medical information, etc.

2. Visiting professors must go to other countries. American scientists must give theoretical and practical courses of the most intensive type, from 2 to 10 months' duration, especially in branches of science not well advanced. Last year some courses in embryology (Patten), isotopes (Cooper and Hasterlisk), etc., had great success in Argentina. South American scientists can be invited to visit the United States, some of them to explain their original discoveries, and others, such as those with leading positions as professors, chiefs of laboratories, etc., will go to acquire firsthand information in modern trends in teaching and research.

3. Fellowships would be most useful if the candidates are well selected and if there is agreement that they will have positions on return to their countries. For those that develop well and are promising men, the Institute could give them equipment to continue their research in their own country and the American professors who have directed them could continue to be advisers by correspondence or eventually to visit the country if needed.

Obstacles

1. The principal difficulty is the difference of language. The American professors would have a wider audience if they speak Spanish (or Portuguese) and not only English. The fellowship people to the United States must have sufficient ability in English before going.

2. In many countries the previous training is insufficient.

3. In many foreign countries the role of science in the modern world is deficient and the returning men cannot find support such as positions, work, salaries, etc.

I hope that these opinions will be useful to your committee.

With best regards, I am,

Sincerely yours,

BERNARDO A. HOUSSAY.

PRINCETON UNIVERSITY,
THE JAMES FORRESTAL RESEARCH CENTER,
Princeton, N.J., March 16, 1959.

DEAR SENATOR HUMPHREY: Thank you for the cordial invitation to express my views in regard to the Senate Joint Resolution 41. Perhaps a satisfactory reply would be to answer the questions contained in your letter.

(*a*) No doubt the Federation of Biological Societies and AIBS are included in your list of scientific organizations.

(*b*) Many groups are already engaged in some of the activities mentioned. I presume that suitable arrangements will be made to prevent duplication of work.

(*c*) and (*d*) Science knows no boundaries and scientists, as a group, can be of great service as envoys of good will. Opportunities are available in medicine and science to remove barriers and create personal attachments which strengthen bonds of friendship. In short, as a byproduct of this project the formation of a group of exchange workers who are well educated and responsible will, by itself, be worth more than the money invested.

The preceding paragraphs will no doubt conform with the remarks of many others. In reply to the remaining portion of your letter I can add some thoughts based on personal experience.

In regard to cooperation among scientists of all nationalities, I do not believe there are any major obstacles which are different from our own national problems.

This brings me to the most important portion of this letter—that is, new approaches, strengths or weaknesses of U.S. Government medical-biological research programs.

You have mentioned the fact that a contribution made by me was awarded the Nobel Prize. This statement should be amplified by inclusion of the names of Dr. Philip S. Hench and Prof. T. Reichstein. The award was made for investigation of the chemical and physiologic properties of the hormones of the adrenal cortex. Each one of the three investigators contributed to the project which culminated in the clinical use of cortisone on a large scale.

Now, the point I wish to make is this. If, in 1930, I had started on this project in a laboratory of the U.S. Government, the Nobel Prize would not have been awarded. I am quite certain that I would not have been permitted to complete the investigation.

The situation was as follows. In 1930 I began an investigation of the chemical and physiologic properties of the adrenal cortex in the Section of Biochemistry at the Mayo Foundation at Rochester, Minn. The objective was to isolate the essential hormone, to identify the chemical structure, and, if possible, to prepare the compound (or compounds) for use on the large scale in the treatment of patients.

This program was followed step by step for the following 18 years. Dr. L. H. Sarett of Merck and Co. made an essential contribution in 1947 and in 1948 Drs. Hench, Slocumb, Polley, and myself treated a series of patients with cortisone. The results were announced in April 1949. Today cortisone and its derivatives are used effectively in the treatment of more different diseases than is any other single substance.

It should be emphasized that at no time between 1930 and 1948 was there any assurance that the project could be completed and no one could or would say that such a program was worth while.

I firmly believe that such an investigation could not have been completed, under the circumstances which prevailed, in a laboratory in any pharmaceutical company, university, or under the control of the U.S. Government.

Opportunity to carry out the work was permitted by the policy established by Drs. W. J. and C. H. Mayo and the other men who built up the Mayo Clinic. These men are known to you. Today there is no question about the soundness of the policy. Chemists, physiologists, clinicians, and patients alike long will remain grateful debtors of those who adopted that procedure.

May I request that you give some thought to the following statements—(1) seek out competent scientists to conduct research; (2) place opportunity and responsibility in their hands; (3) permit them to proceed with a minimum requirement of "progress reports" (once a year should be adequate); (4) build up esprit de corps by assurance of tenure of office, an adequate salary, and indefinite continuity of program; (5) terminate any project only when the results indicate that the objective cannot be reached by the avenue of approach.

You may refer publicly to any portion of this letter.

Sincerely yours,

EDWARD C. KENDALL.

DEPARTMENT OF BIOCHEMISTRY,
UNIVERSITY OF OXFORD,
Oxford, May 5, 1959.

DEAR SENATOR HUMPHREY: I wish to thank you for your letter and for sending me a copy of the committee print, "International Medical Research." In response to your request I would like to offer the following comments:

(1) I admire the foresight and boldness of your subcommittee, as revealed by your letter and the printed document. While everybody realizes that disease knows no national frontiers, few people venture to draw the conclusion that nations must unite if the conquest of disease is to progress most favorably. The global attack on the major killing maladies which you envisage is a thing we sometimes dreamed of but hardly dared to discuss as a feasible proposition.

(2) There are two major factors—manpower and facilities—which, generally speaking, limit the rate of progress in the fight against disease. The relative importance of these two factors varies from country to country. In Britain the greater handicap at present is the shortage of laboratory buildings. Highly skilled and devoted research workers are available but they lack the tools for the job. In Britain we look mainly to the University Grants Committee of the Government and, to a lesser extent, to industry and to foundations for financial support. Owing to a variety of circumstances—in my opinion, mainly owing to lack of vision in the responsible quarters—the funds available for building research laboratories are far too small. Most of the money given by the Government to universities is used for teaching and very little indeed for research. The result is that we have more well-trained people than we can deploy on research on the problems of disease because our laboratories are hopelessly overcrowded.

(3) My personal knowledge of continental Europe is limited. In most European countries west of the Iron Curtain, buildings seem to be a less limiting factor than the number of adequately paid research posts.

(4) In reply to your specific question about the steps that should be taken to strengthen medical research and to foster international cooperation in the field of biochemistry, I would say that the decision of the U.S. Government agencies to make grants to selected research workers in foreign countries is a great step in the right direction. I suggest that this policy be developed. If grants could also be made toward the erection of new laboratories, we would move another great step nearer to the ideal of full international cooperation. In my own university—Oxford—we have a general plan for the development of the growing points of medicine and fundamental biology. We have in mind one moderately sized institute where promising younger people in the fields of virology, genetics, biophysics, molecular biology, and experimental medicine are assembled and are provided with adequate facilities to lead a team. The assembly under one roof of people working in different but related fields is thought to be particularly fruitful. Oxford provides a specially fertile ground for such development because it is already strong in the basic medical, biological, and physical sciences such as physiology, biochemistry, pharmacology, pathology, chemical microbiology, chemistry, and physics, and it has a rapidly developing medical school. It is a center which attracts research workers from many countries, including the United States. The outlines of the plans are ready, people are available, building sites are at hand, but there are as yet no funds for a building and its equipment. This scheme is, I believe, one of the specific illustrations of the ways and means of starting a new approach to what you call the challenging problems of research.

I am,
Yours sincerely,

H.A. KREBS.

STANFORD UNIVERSITY,
Stanford, Calif., March 15, 1959.

DEAR SENATOR HUMPHREY: Thank you for your letter of the 6th, soliciting my opinions on our health research program, and in particular on Senate Joint Resolution 41 relating to international medical research. I am happy to have the opportunity to express my views, which are, of course, available for publication as you see fit.

The National Institutes of Health and its programs in support of research in the health sciences are now universally recognized to play an indispensable role in our national welfare. The administration of the NIH has always been responsive (to a remarkable degree) to the needs of our scientists; and I

would be happy to recommend your confident reliance on the NIH in speaking for these needs in detail. This is, in part, a reflection of the important role played by many academic research workers throughout the country in implementing the review procedures and policy development of the NIH through their participation in study sections and advisory councils.

From my experience on such panels, I think it would be fair to conclude that existing levels of support essentially suffice to support most of the projects of obvious merit that are submitted to the NIH by scientists throughout the country. However, I do not believe that this should encourage complacency as to the adequacy of financial support of research in the medical sciences. Funds are still not sufficient so as to be readily available for several categories: (*a*) To encourage planning for research that owing to needs for elaborate instrumentation and other material facilities may require budgets that are out of line with existing norms—I must confess that my own planning is still made in a context of relative penury, and this is not necessarily advantageous to the most productive development of scientific ideas; (*b*) for projects whose merit may be dubious in the light of present knowledge but some small fraction of which might still make so valuable a return as to compensate for the risks; (*c*) for projects and integrated programs which involve the bringing together of groups of scientists with mutually complementary skills; (*d*) for the many new laboratory buildings that must be constructed to house our expanding research program; (*e*) for the training of our future scientists; and also (*f*) for adequate support of worthy programs of research in other countries.

To speak first to (*f*), it is, of course, obvious that the American people will benefit equally from health advances made in other countries as those in the United States. Indirectly, we are bound to share in the economic prosperity of other nations (with many of which we now wisely share some of our wealth); more directly, new knowledge and new methods of medical practice are immediately applicable to our personal needs, regardless of the nation in which they originate. Anything we can do to encourage medical research anywhere in the world is an investment in our own security, health, and happiness.

These inferences are quite well brought out in the subcommittee print, and I perhaps need not enlarge further on them. However, perhaps there are some who do not fully appreciate the extent and importance of international communication in science, which is simply part of my daily experience—in reading scientific papers which bolster and help define my own laboratory work, in my own visits to other laboratories and personal correspondence with scientists abroad, and in visits of foreign students and scientists to my own laboratory. For example, in my own laboratory at this moment I have students and colleagues from several countries (besides the United States) who are making important contributions to our research program—Australia, Japan, India, Great Britain. Perhaps I could not do better in underlining this point than to refer to two enclosures: (1) A copy of my address of thanks at the Nobel ceremonies in Stockholm last December, and (2) a partial list of my past colleagues, which does, as you will see, have a cosmopolitan flavor. As I did try to say, the Nobel Prize itself has no meaning whatever except to exemplify the worldwide scope of achievement in science and humanity.

As you can already judge from these remarks, international cooperation in medical research has already gone a long way. But it is certainly true that much more can be done both to help support research in other countries and to foster better communication between scientists of diverse nationality.

As to details of procedure and organization, I would prefer to base more deeply considered remarks on the proposals of the NIH, which will be in closer touch with administrative questions. The organization of a new Institute for International Medical Research would have the virtue of dramatizing America's contributions in this sphere, and perhaps then building more constructive support in the public mind both in the United States and throughout the world. However, I have been speculating in my own mind that our breadth of vision might be demonstrated even more convincingly if we simply did not distinguish promising research applications on the basis of nationality. The NIH already has some statutory authority to make grants to workers abroad, though it has, I believe, exercised this with some diffidence, perhaps owing to the lack of an explicit legislative mandate. More funds will, of course, be needed if foreign applications are to be encouraged. Existent procedures should be able to accom-

modate a substantial increase in the level of support going to laboratories elsewhere. If these should, however, reach a scale even approximating that now available in the United States, careful thought will have to be given to the development of mechanisms to allow foreign participation in the review of applications. If they do reach such a scale, then I might urge considering the use of WHO as an extranational agency for review and disbursement, a scheme that might make some flexible use of fund matching for the encouragement of indigenous support (a scheme that should by no means be obligatory for U.S.-administered funds). However, I would think offhand that foreign support to a level of $50 million could be accommodated without deflecting from present techniques.

A new Institute for International Medical Research could play an important role in the development of policy and as a clearinghouse for new thoughts. While it should not play a direct role in research project review (which would lead to specific distinctions between domestic and foreign science), it could still help to bring the program to the attention of the world's scientists. It could also take responsibility for the special problems of international communication and personal exchange. Rather than develop a unique program of grants and fellowships, I would suggest strengthening our existing one and making it directly available to foreign candidates. The IMR Institute might then be called upon to support the additional requirements for international exchange.

For example, my own research and graduate training activities are given substantial support by the NIH and NSF. I have, as far as possible, accepted candidates for assistantships and studentships who might be paid stipends from these grants on the basis of individual merit, and this has resulted in the recruitment of a substantial number of foreign researchers. This has always involved some difficulty because of costs of travel to the United States. The Fulbright program has been a tremendous benefit, but it has not always been possible for these workers to make use of it. As a separate program there are problems of timing and availability of awards. An IMR Institute might perform a splendid service if it could promptly review and respond to applications for supplementary travel support for nominees on NIH-supported research programs in the United States.

To take another explicit example from my experience as a Fulbright visitor to Australia, many of my colleagues there, especially in biochemistry, expressed some sense of isolation and discouragement because current American scientific journals took several weeks or months [sic] to reach there by sea mails. An offer to furnish air transport (perhaps in cooperation with the Australian Government) for such materials to the 8 or 10 principal centers might do a great deal to encourage the sense of participation of an able group of dedicated workers in the immediate currents of scientific progress elsewhere.

I have no doubt that the IMR Institute could multiply these possibilities manifold; it should be given ample authority to manage a flexible program.

I do not believe there are serious obstacles to cooperation among scientists, apart from the obvious problems related to language differences and travel costs. There is nothing national about knowledge, no matter where its discovery, and scientists of all countries are inclined to respect one another, and to take advantage of their reciprocated riches. The advent of jet aircraft travel will make the oceans a slim barrier indeed, but present policies and funds of the NIH do not make it possible to make full use of these instruments.

To answer one of your last questions, I have already summarized some of the general needs for further development. I would put special emphasis on the shortage of funds for construction of health research facilities, and have been particularly disappointed at the skimpy provision for this, in relation to expressed and admitted needs, in this year's executive budget. I would also raise the question, once again, of the wisdom of excluding education facilities, not only because of the inherent needs for them, but also because their exclusion has worked considerable mischief in planning for research facilities that might have related training (including research training) functions.

One small, and I hope easily remediable, detail that has hindered the most productive association of Government (e.g., NIH or Army Medical Research Center) scientists with academic workers has been the severe interpretation of civil service regulations concerning travel of Government personnel, and the use, e.g., of grant funds to pay travel costs of Government scientists for research

conferences, consultations, and so forth at university laboratories. One can visualize the potential abuses that may have justified such regulations, but they are hardly relevant in this context.

Yours cordially,

JOSHUA LEDERBERG,
Professor of Genetics.

ADDRESS AT NOBEL AWARD ACCEPTANCE CEREMONY

STOCKHOLM, *December 10, 1958.*

Your Majesties, Your Royal Highnesses, Your Excellencies, Ladies and Gentlemen:

Pride is humbled as humility is exalted in the dignity and splendor of this occasion.

Who would deny his pride in the appreciation of his fellows and to join therein with George W. Beadle and Edward L. Tatum whose exploration and teaching have inspired a generation of discovery. Here pride must merge with humility in the same contemplation of the webs of interdependence of each investigator in the global community of scientific research, of each elusive fact in the continuum of human knowledge.

But formal eclat and public attention are so unaccustomed a distinction that a scholar may ask by what lasting motive he is elevated from the simpler satisfactions of academic life. We must concede that some aspects of Nobel's dedication have been deflected by the force of history. His contrition for chemical inhumanity is shaded in the gloom of cosmic insecurity. Many sciences, and genetics in particular, have germinated and flowered only since his time. The growing complexity of science and the reticulation of its advances must make the task of singular choice ever more difficult and arbitrary.

But if Nobel's honors are celebrated in Stockholm his passion is enacted in Oslo. His zeal for peace and international understanding is further expressed in his testamentary "wish that in awarding the prizes no consideration whatever shall be given to the nationality of the candidates." The merit the prizes have won is in the faith and courage of this trust.

The illumination of human aspirations in intellect and in charity which transcend nationality is then the enduring warrant of Nobel's legacy. Our presence honors his hopes for the fraternity of mankind.

My greatest pride and humblest gratitude is to join in this dedication.

JOSHUA LEDERBERG.

Some of my collaborators (coauthors in published articles) (present addresses, 1958):

Dr. Aleck Bernstein, Central Enteric Reference Laboratory, Colindale Avenue, London NW. 9, England.
Dr. S. G. Bradley, Department of Microbiology, University of Minnesota, Minneapolis, Minn.
Dr. L. L. Cavalli, Istituto di Genetica della Universita, Via Sant 'Epifanio 14, Pavia, Italy.
Dr. Michael Duodoroff, Department of Bacteriology, University of California, Berkeley, Calif.
Dr. P. R. Edwards, Communicable Diseases Center, Box 185, Chamblee, Ga.
Dr. N. H. Giles, Jr., Yale University OBL, New Haven, Conn.
Miss E. R. Lively, Division of Biology, University of Texas Medical Center, Houston, Tex.
Dr. M. L. Morse, Webb Building, University of Colorado Medical Center, Denver, Colo.
Dr. T. C. Nelson, Antibiotic Division, Development Laboratories, Eli Lilly & Co., Indianapolis, Ind.
Dr. Boris Rotman, Instituto de Quimica Fisiologica, Escuela de Medicina, Universidad de Chile, Borgono 1470, Santiago, Chile.
Prof. F. J. Ryan, Department of Zoology, Columbia University, New York, N.Y.
Dr. P. D. Skaar, Department of Zoology and Entomology, University of Montana, Bozeman, Mont.
Dr. B. A. D. Stocker, Lister Institute, Chelsea Bridge Road, London SW. 1, England.

Dr. E. L. Tatum, Rockefeller Institute, 66th and York, New York, N.Y.
Dr. R. E. Wright, Department of Bacteriology, University of Melbourne, Carlton N. 3, Victoria, Australia.
Dr. M. R. Zelle, Division of Biology and Medicine, Atomic Energy Commission, Washington, D.C.
Dr. N. Zinder, Rockefeller Institute, 66th and York, New York, N.Y.
Dr. Tetsuo Iino, National Institute of Genetics, Yata 1111, Sizuoka-ken, Misima, Japan.

JOSHUA LEDERBERG.

ELSTREE, HERTS, *March 16, 1959.*

DEAR SENATOR HUMPHREY: Thank you for your letter of March 6. I am very glad to know that your committee is making this type of approach to scientists. It gives me the opportunity to make a number of observations which I have frequently made before but which I fear have fallen on somewhat stony ground.

It is my strongly felt opinion that most of the money which is spent on medical research is ill spent. I believe that it is fundamentally wrong to earmark money and laboratories for particular subjects, merely because they are problems to which everyone would like to have solutions. What normally happens when money is devoted to research on a particular subject is that fresh staff are taken on and told to work on this subject. Normally, they lack ideas and can only repeat more or less work that has gone before. In fields such as medical research, the great advances come from new and original ideas which have been appropriately backed. The pursuit of original thought cannot be undertaken as an act of will. I would draw the analogy that it resembles the pursuit of happiness, in that the most profitable way of becoming happy is seldom to pursue happiness itself. Similarly, I do not believe that anyone can sit down and determine that he will have an original thought on any particular subject. Such ideas occur in the course of other work and they occur on the whole to a very small proportion of all scientific workers. I believe that the proper way of supporting scientific research is to endow people who have original ideas and to allow them to choose the problems which appear to them to be most worthy of attack. The identification of people with original ideas is, of course, no easy problem but in general it is worth while supporting those who have already produced something of value.

You ask for some specific illustrations. I would suggest that penicillin is an excellent example. I do not believe that any amount of direct work upon antiseptics would have produced penicillin. Penicillin occurred as a result of an observation in an entirely different field. In its early stages it did not look particularly promising as a substance of practical utility. Only by allowing people to follow up ideas of this kind without attempting to tie them in any way to produce useful results in any given period can you, in my opinion, obtain the optimum use of scientific manpower.

Another example, I think, may be drawn from cancer research. In my opinion, the funds which have been expended on cancer have been largely wasted because there have been very few original ideas in this field while there have been large numbers of people working in it. Far more illumination has come to this subject from the work of Tatum and Beadle studying the genetics of neurospora, than from most of the work which was nominally done in aid of cancer research at cancer research institutes. I think that if the large numbers of people who have worked in cancer had been permitted to follow their own ideas of what was a useful subject to investigate, they would have produced far more, always assuming that those directing the work had been chosen for their own output of original thought.

I do not feel that any particular steps need be taken to promote international cooperation. Research is mostly something which individuals do in their own way and, provided funds are available, no formal steps need be taken to promote cooperation. The scientists themselves will have no trouble whatever in arranging cooperative activities when these are necessary. Only in those cases where a large amount of applied research, which normally is connected only with production of things in large quantity, will it be necessary to provide mechanism for cooperation of directed research. These are essentially technological problems and can usefully be tackled by putting large teams of people to apply known methods to the solution of clearly defined problems.

Perhaps I might end by saying that I have the feeling that in the United States too much emphasis is laid among graduate students and candidates for doctor of philosophy and similar degrees upon publication of research. I feel that less pressure on these students would enable them to derive more benefit from this stage of their education. It seems to me that anyone reading scientific literature can see that a large amount of work is undertaken which was not really worth undertaking at all and that, if more basic thought had been put into the work at the early stages, more valuable results would have been reached.

You will see that I feel that there are few problems concerned with medical research which are different from those concerning scientific research in general. I do not feel that there are special reasons for discriminating between medical and biochemical and biological researches of other kinds. I believe that it is a mistake to attempt to define the field or the nature of the personnel employed too closely.

Yours sincerely,

A. J. P. MARTIN.

Senator HUMPHREY. I should like at this point to note that the Final Report by this subcommittee will contain a major section devoted to issues of the type referred to by Dr. Martin. In literally hundreds of somewhat similar letters which we have received, scientists have urged a deemphasis by granting authorities on directed, categorical research. Our correspondents have vigorously recommended broader latitude for scientists and institutions. Greater support of basic research is a theme which recurs throughout many other of our subcommittee publications.

The following letter from a Nobel Laureate presents the views of a great scientist who was honored as well by being selected by President John F. Kennedy to be Chairman of the U.S. Atomic Energy Commission.

UNIVERSITY OF CALIFORNIA,
Berkeley, Calif., March 30, 1959.

DEAR SENATOR HUMPHREY: It is a pleasure to respond to your letter concerning the establishment of a U.S. National Institute of International Medical Research. This is indeed a most worthy project, deserving the greatest support.

You have raised a number of specific questions which I will attempt to answer. International cooperation in the field of medical research is essential if we are to make rapid progress in the conquest of disease. Scientific discovery knows no international boundary lines, and basic discoveries once made must be shared with others with all possible speed. We must take full advantage of the existing international scientific organizations, and provide them with the means to extend their activities.

Adequate support of international symposia is also important, since these international meetings have become means of exchanging information and ideas. It is during such meetings that scientists can talk together informally of their work, and mention ideas and techniques which would not normally be written in formal articles. The exchange visitor program provides an excellent means of exchanging information at a most important level, that of scientists working together in the laboratory. When scientists work side by side for extended periods of time, communication is possible at a level which cannot be reached in any other way. Points of view, rejected ideas, false starts, detailed design of

experiments, are all part of the fabric of scientific research best communicated between scientists in the laboratory. I am not an expert in medical or biological research, but my observation has been that free interchange of information and scientists is beneficial to the people of the world, and that the nations most active in scientific work benefit even more than less fortunate nations. We must make every effort to keep open these lines of international communication with all nations of the world.

You have my firm support in your project to establish a U.S. National Institute of International Medical Research. Wisely administered, it should open further avenues of international cooperation in science.

Sincerely yours,

GLENN T. SEABORG.

UNIVERSITY OF CALIFORNIA,
Berkeley, Calif., April 3, 1959.

DEAR SENATOR HUMPHREY: I have returned to the laboratory after a short illness and now have your letter of March 6 regarding your interest and that of your subcommittee in specific steps that might be taken to strengthen medical research throughout the world. You mention Senate Joint Resolution 41 proposed by Senator Hill, and I should like at once to indicate my very enthusiastic support of this bill. I have testified before committees under the chairmanship of Senator Hill during the past few years, and I am familiar with the very forward thinking of Senator Hill.

The virus laboratory, which I established here at the University of California in 1948, represents the type of organization operating in a new area of medical research which has had a very important influence in virology throughout the world. During the past 11 years approximately 25 percent of our senior scientific staff has consisted each year of representatives from foreign countries. We have had in all representatives from 17 different countries who have spent usually 1 but sometimes 2 or 3 years here in training and have then returned to their own countries where in some cases similar research institutes have been started. On the basis of my own experience, I am convinced that a U.S. National Institute of International Medical Research operating on a much broader and more extensive basis could be a great force for good throughout the world. It would be possible, for example, for embryonic scientists from all parts of the world to come to this Institute for 1 or 2 years of training and then carry back this information thus gained to their native countries. Thus, nuclei of specialized medical information could be established throughout the world, and, if the new Institute should have the authority to make grants, it would be possible to aid financially these nuclei of medical research throughout the world. A small group thus established in a given country could serve as a standard of comparison and thus the entire level of medical research in that country would undoubtedly rise.

Another aspect which I think worthy of consideration comes to my mind as a result of some weeks spent observing medical research in the U.S.S.R. I found that they are training an enormous number of medical technicians, more it seemed to me than they could ever possibly use within the extensive medical research laboratories in the U.S.S.R. I am convinced that this excess production of medical technicians is being fostered for the purpose of eventual export. In other words, I am inclined to believe that the U.S.S.R. intends at some time in the not too distant future to send medically trained technical people to underdeveloped countries to help them with their medical problems. Since it is highly probable that these individuals will be among the more dedicated Communists, the medical aid which they will provide will undoubtedly be accompanied by political activity. I believe that one activity which we are already sponsoring to a very limited extent should be vastly increased, and this is our own medical technical aid to backward countries. For some years this university has sponsored medical aid to Indonesia through an interchange of faculty between the University of California and the University of Indonesia. We have, for example, the professor of microbiology from the University of Indonesia in this laboratory during the present year.

I believe that foreign aid in the form of medical technical advice and generally along the lines of helping people to help themselves represents by far the best type of aid. A U.S. National Institute of International Medical Re-

search could be a very powerful influence for good not only insofar as direct medical research is concerned but perhaps equally important insofar as fostering better relationships between our country and other countries.

With kindest regards, I am,

Sincerely yours,

W. M. STANLEY.

LABORATORY FOR THE INSTITUTE FOR MUSCLE RESEARCH,
Woods Hole, Mass., March 13, 1959.

DEAR SENATOR HUMPHREY: I thank you for your confidence. Needless to say, I would be delighted if, in any way, I can be of help to you. Please make free use of any of my remarks:

1. I wonder, how far a frontal attack on the crippling diseases, you mention, can be made at all. I think that to a great extent the advance in therapy, or prevention, is a natural consequence of our basic understanding. Shortcuts, as a direct attack, mostly turn out to be but blind alleys. So, emphasis should be laid on the broadening of our basic understanding of nature. Very much progress has been made on this line during the past decade, in this country. When I came here, 12 years ago, the complete lack of understanding of this cardinal point was most frightening. I am inclined to think that any researcher who goes out to learn something about living nature has a small chance to do something useful about cancer. He who sets out to solve cancer has practically none, though here and there developmental work (such as Salk's vaccine) may become necessary, once the groundwork is laid.

2. Basic research means going out into the unknown, and tomorrow's experiments may depend on what is found today, and, mostly, one ends up with something quite different than one is looking for. So possibly, much freedom should be given to the researchers to turn any way they like. NIH (and NSF) do excellent work in relation to both these points.

3. Live science is the sum of scientists. Its progress depends on the scientist's brain. This point is very often disregarded, and money given for science always tends to go into bricks and pipes, and not into brains.

4. Good scientists produce good science, poor scientists poor science. Creative work, be it in art or science, cannot be based on democratic ideas, that we are all equals. We are not. Real progress in science comes usually from a few outstanding people. The production of an outstanding scientific research brain is something very rare and expensive (because of the necessary waste on poor brains). So everything should be done to keep it in good shape.

One of my friends, Sir Henry Dale, once told me: "If we find a man who can do research, we give him a job in which he spends his time on people who cannot." This is still true, both here and abroad. More chance would have to be given to outstanding researchers (very few in number) to devote their whole time and brain to their research, unhampered. None of it should be squandered on commuting, Senate meetings, routine lecturing, and earning extra money for their families. In solving nature's problems one brain with only 24 hours may fall short. If we take away from both, the production will decrease at a very fast rate.

5. Uncle Sam is generous now in supporting science, but not in supporting scientists. There is an outspoken law in this country: "Everybody should be paid for his work, except the scientist. He should do everything free of charge." When I entered the field of science, as a young man, science was a temple of the selected few and one willingly took upon himself any deprivation and it was natural to do everything free of charge. Science has since become a social function, but society has kept the old attitude with regard to finances. I am still shocked by the great number of invitations I receive to speak here and there, with only a miserable financial recompensation. Abuse is made here of the situation of most scientists whose advancement at their universities depends on the number of outside invitations. Very much harm is done by the fact that reviewing articles for the editors is not paid for either, which makes reviewing poor and delayed.

6. As to what could and should be done for science in this country, one of the first steps should be raising its standing of spiritual values in society. In Europe we scientists had poor pay but a high standing. Here, standing is judged by the pay one gets, and so the scientist is nowhere, and the scientist is despised in spite of all lipservice. Science is also confused with the making

of missiles. It would be very good investment to have a prize for outstanding production in the spiritual field. This would give a social standing for creative work. Something on the line of the Nobel Prize, or the Atom for Peace Award, connected with some fuss and formalities. In England outstanding scientists become knighted. There is no way in this country in which society can express its appreciation for creative spiritual work. A national lecture could be set up in biology and medicine carrying with it an award of, say $25,000. The formal lecture could be delivered (in white tie) at the National Institutes of Health; the check could be handed the same day by the President. The lecturer would call himself, later, National Lecturer, 1959. The prize could be awarded by the Academy of Science on recommendation of the Biological and Medical Sections, and honor the most outstanding achievement of the last 3 years.

7. Shifting to the International level: "Excerpta" is a good beginning, should be supported and extended. This sort of thing is useful only if really good and complete, which it is not yet. Translating services, especially translation from the Russian, should be promoted. I still have practically no access to Soviet literature.

8. Research should be supported financially abroad more generously. A friend of mine, one of the most outstanding researchers in England, has practically given up research lately for the lack of funds. So money could be spent more efficiently abroad, especially in England, and to a considerably smaller extent, perhaps, in France and Italy.

9. Exchange of scientists has to be promoted by all means, but it is a touchy problem and may lead to losses if done schematically. If I would, for instance, be sent to England for a year in exchange, it would be an almost complete loss of time. This sort of thing should be done on a very personal basis. I am speaking from experience. Last year I invited Professor and Mrs. Pullman (from the Sorbonne, on quantum mechanics) to spend the whole summer with me at Woods Hole. The quiet exchange of ideas was most fruitful and we both profited enormously. I was so much encouraged by the result that I decided to extend this experience and have invited four outstanding scientists, working on my line, from Europe, and have invited twice this number from this country. We will have a quiet and intimate exchange of ideas all summer. My difficulties are these (to illustrate the points in principle): I cannot expect an outstanding scientist to leave his family behind for months, so I had to invite him with wife and children, and provide traveling expense and decent housing where they can live and work quietly. Uncle Sam does not recognize the existence of wife and children, and does not think that scientists should live in a decent house. How I will account for the expenses I still do not know, even if I find the money. The big congresses of now-a-days, with thousands of participants firing papers at one another, are of no use whatsoever. They are only a self-advertising possibility, a loss of work hours.

What I am driving at is that exchange of scientists should not be done impersonally. Chance should be given for people to get together who want to be together and work together, for the length of time they want to be together, whatever this may be, regardless of nationality and distance. The obstacles at present are chiefly financial. In the future, when China will count more heavily, they may be political. They may be political also with Russians, or British scientists if they are sympathetic to communism.

For the long run a more extensive exchange of students could be considered.

These are my remarks, dear Senator Humphrey, whatever they may be worth. I will always be glad if I can help you in any way and wish you good luck.

Yours sincerely,

ALBERT SZENT-GYORGYI.

UNIVERSITY CHEMICAL LABORATORY,
Cambridge, March 20, 1959.

MY DEAR SENATOR: I have to thank you for your letter of March 6 and for the subcommittee report which was enclosed with it. I do not know that I have a great deal to contribute at this stage beyond welcoming the action which it is proposed to take through the Hill bill to expand and strengthen medical research at an international level. The general lines of approach which you envisage and which are really a further development of the valuable work which the National Institutes of Health have been doing in recent years seems to cover most of the desirable lines of attack.

There are, perhaps, two general points that I should make. Insofar as the furtherance of medical research in countries already highly developed in this respect, such as the United Kingdom, Germany, etc., is concerned I think it would be most desirable that your Institute of International Medical Research should operate in conjunction with and through existing national organizations, since, apart from anything else, this would avoid unnecessary overlap and confusion and would strengthen our cooperative effort. In the endeavor to stimulate medical research in the underdeveloped countries, I should have thought that a close coordination with WHO would be desirable.

The second is a smaller point and almost one of detail. I think that interchange of young research workers at the postdoctoral level is of immense value, but the rather common practice of the National Institutes of Health to finance 1-year fellowships of this type is not always an ideal arrangement. In a great many cases, and possibly in all, the research fellow would, in fact, gain more scientifically from a longer period and I would suggest that a 2-year tenure should be the rule rather than the exception.

If I may make a final point it is simply that the major obstacle to real cooperation is usually a lack of knowledge and understanding between the people concerned and that this is best removed by the type of exchange visitor and fellowship programs which your committee has in mind and that, in developing a large program of the type which you have in mind, it is important, although perhaps difficult at times, to keep redtape from slowing down and complicating its operation.

Yours sincerely,

ALEXANDER R. TODD.

RUTGERS,
New Brunswick, N.J., March 19, 1959.

MY DEAR SENATOR HUMPHREY: I am in receipt of your letter of March 6, and, in accordance with your request, I am presenting the following ideas for your consideration in connection with your proposed program on international medical research.

Permit me to state first my qualifications for making such recommendations. Between 1924 and 1959, I have been abroad at least 20 times, attending numerous international conferences. I have delivered many addresses in most of the countries in Western and Eastern Europe and in Asia. I have served as president and honorary president of various international organizations. I have been a member of various committees of different international organizations, such as the World Health Organization. I have been honored in numerous foreign countries by scientific bodies, by universities, and by chiefs of state. I have received in my own laboratories at Rutgers University in New Brunswick, N.J., numerous foreign students, investigators, and visitors from practically every civilized country in the world. I thus have had ample opportunity to familiarize myself firsthand with the international aspects of science in general, and of biochemistry, microbiology, and certain medical fields in particular. I might add further that my books have been translated into many foreign languages and have been published in many different countries (including Japan and the Soviet Union).

In the course of my international contacts, I have always found, on the part of both individual scientists and official scientific bodies, an intense desire for promoting progress through close collaboration, both in problems pertaining to fundamental research and their practical applications. Although I found that much is already being done to foster such collaboration, through exchanges of investigators, scientific meetings, and the publication of various scientific journals, still more needs to be done. I would like to outline for your consideration the following problems:

1. Organization of research: Every civilized country has at the present time a highly organized program of medical research, carried out in the universities, in special institutes, in government research laboratories, and in industrial organizations. The trained personnel and the funds available for such purposes vary greatly with each country. It would appear fair to state that increasing numbers of great discoveries made in the field of medicine during the past 20 years, a period that has seen greater medical progress than any previous period in human history, have come from the United States, Great Britain and France. The Western countries still lead the world today in the manufacture of antibiotics and other drugs. There are many reasons why this is the case. The less

producing countries are suffering from a lack of sufficiently trained personnel, lack of funds and equipment, and often also lack of desirable coordination between university research and practical application. One can frequently observe abnormal situations, such as that the returned students and investigators, who, after having spent years in training in the United States are unable upon returning to their native countries, to find suitable employment and conditions favorable for their research efforts. This is true, for example, of India, where many young investigators, sent to the United States and Western Europe for specialized training in various fields of science, do not find suitable conditions for their work upon their return home.

2. Publication of research: The quality of the research published in the different countries of the world varies greatly, both from one science to another, and from one country to another. The quality of the work done in the biological sciences in general and in the medical sciences in particular is generally inferior in certain countries than in the United States and in Western Europe. The reasons seem simple enough. Biological research in the Soviet Union has been plagued by adherence to political ideologies (such as that of Lysenko and numerous minor editions), by dialectic philosophies often verging upon sheer speculation, and by an insufficient exchange with the Western World, in regard to ideas, technical approaches and accomplishments. Lack of progress in Japan and in India, however, may be due more to a lack of sufficient funds required for research work rather than contamination with political ideologies or lack of contacts.

3. International exchange of information: One would expect that international congresses should serve this purpose. Unfortunately, although the scientific world has been recently plagued with a deluge of scientific congresses and other meetings of one sort or another in recent years, these have not always served the purpose for which they were designed originally. These shortcomings have been due, on the one hand, to the fact that such congresses have tended to become extremely overcrowded, so that only limited opportunities for exchanging ideas and information were provided to serious minded scientists, and on the other hand, many of these congresses have tended to become social affairs with scientific interests taking a back seat. The ease with which many people can attend congresses nowadays has paradoxically enough often been a hindrance rather than a benefit toward the attainment of the best results. There are other factors that have contributed to the lack of success of certain congresses, such as the difficulty of obtaining visas encountered by some foreign scientists desiring to come to this country, and the great cost to smaller countries, like Switzerland and Denmark, of holding huge congresses which are attended often by 3,000 to 8,000 people. Corrective measures would comprise and have already included (a) the organization of small symposia, (b) attendance of such symposia by invitation, (c) selection of special topics for discussion, etc.

4. Exchange of individual scientists and scientific groups between different countries: This has been done and is being done at an ever increasing, but insufficient rate. More funds should be provided for this purpose, both for bringing foreign investigators here for sufficiently long periods of time, as well as for sending U.S. investigators abroad. Such an exchange program is one of the most encouraging aspects of international cooperation in medical research and in medical practice. Not only should promising scientists be given an opportunity to familiarize themselves with the progress made in other countries, but they should be encouraged to continue such international collaboration upon return to their native lands. The inhabitants of the various retarded countries thus should feel that they are not being treated as colonials or as backward people, but as equals.

5. Establishment of international journals: Increased emphasis should be placed on translations of scientific reports from one language into another and on the publication of international journals. Much of this is being done now, but not in the best possible manner. Thus one may often find in a given foreign journal an occasional article worth translating. However, whether this justifies the translation of the whole journal, which often may carry a lot of unimportant information, should be considered carefully before regular publication of the translated journals is contemplated or activated. Decisions regarding such problems should be left to scientific bodies rather than to official government organizations.

6. Collaboration with existing international bodies, like the World Health Organization, should be encouraged. This is also true of the various interna-

tional congresses, such as those of physiology, biochemistry, and microbiology; these have standing international committees. They should be supported and encouraged in their work. Special institutes should be established to meet certain special requirements, as in the case of the UNICEF in Paris, or the international union against tuberculosis. I should like to advise the establishment of an international center (or two or more centers) of culture collections of important microorganisms, as well as antibiotic centers for the standardization and comparison of new and old antibiotics. For the purpose of research and standardization of important drugs, I should also like to see international centers which would combine functions and aims of the Pasteur Institute, the Lister Institute, and the U.S. Food and Drug Administration. These should be established in different parts of the world, such as in the United States, London, Paris, Rome, Moscow, New Delhi, and Tokyo.

7. International cooperative programs under centralized control or carried out cooperatively by proper administrative and scientific coordination. With the ever-increasing rapidity of means of communication, it is now possible to plan research on a truly international scale. This should be carried out in international centers, such as those proposed above. A general program dedicated to one particular problem, say, cancer eradication, may be planned and staff allocations as well as needed funds could be set aside for each laboratory. Every 3 or 6 months, representatives of these laboratories should meet to discuss the results of their work, and plan further coordinated research. An ideal example has been set in this connection by the Veterans' Administration of the United States in planning the coordinated attack against tuberculosis. The discovery of streptomycin in 1943, and its introduction into medical practice in 1945, necessitated such cooperative effort. The semi-annual and later annual meetings of some 60 to 100 veterans' hospitals, as represented by laboratory research teams, served as one of the greatest cooperative stimuli that the world has ever seen in helping to control, and we hope finally to eradicate, one of the greatest scourges of the human race—the great white plague, tuberculosis. Why can this not be done on an international scale for other diseases, notably cancer? The increasing utilization of antibiotics, which has revolutionized medical practice will necessitate increased international collaboration, especially in connection with the problem of development of resistance to antibiotics, and problems of geriatrics.

Finally, I have also been asked to comment on the strengths and/or weaknesses of the U.S. Government medicobiological research programs. In this connection I would like to limit myself only to a consideration of certain dangers inherent in our present policy of Federal support of research through grants for project research.

The noble purpose of this program, for which so much effort has been expended, has by its very nature, certain intrinsic weaknesses that make it extremely vulnerable to criticism. When the U.S. Public Health Service research grant divisions were first established, about 1946 or 1947, I served as a member of one such division, namely, "bacteriology," which as such no longer exists. I urged the other members of this particular committee at that time to consider a policy that would permit that half of the assigned funds be placed at the disposal of three or four outstanding laboratories to initiate certain fundamental phases of research, which were being completely neglected, whereas the other half of the funds could be allotted to nonspecific project support. I well recall that a project "on the bacteriology of the cockroach" was given a grant while such problems of fundamental importance as "the indigenous microbial population of the human body," or "intermediary metabolism of bacteria, fungi, and actinomycetes, were not considered since nobody applied for them. In the struggle between the fundamental principle of "individual" versus "team" research, and "spontaneous basic" versus "planned" research, my proposal was defeated. We are still paying the penalty for it. Orthodox, accepted, "safe" approaches to research problems are being favored, while unorthodox, novel, and frequently highly imaginative approaches find little, if any, support from granting agencies.

Let me give you just two illustrations from my own experience; one referring to a period before the research grant divisions were established and the other to a more recent date.

(*a*) I entered upon a comprehensive program of research on antibiotics in 1939. I felt that my previous experience in the study of mixed microbiological populations in the soil and in the sea prepared me ideally for this type of study. My very first investigations along these lines convinced me that one particular

group of soil microorganisms, namely the actinomycetes, offered a real treasure house for the production of antibiotics. I occupied at that time only a group of small laboratories in the administration building of the New Jersey Agricultural Experiment Station, Rutgers University. I had only two assistants and one technician. I had no animal facilities and little chemical help. I applied (early in 1942) for a grant to the newly established Committee on Medical Research of the OSRD. I was refused and given to understand that what I proposed was purely theoretical and "since we were at war we needed practical results." I was depressed and confounded. Fortunately, an industrial organization and a private foundation came to my aid. The result, including the discovery of streptomycin, is history. I may say, incidentally, that of the billion or so dollars now spent in this country annually on antibiotics, 80 percent or more go for antibiotics produced by the actinomycetes, one of the more important of which is streptomycin which was first isolated in my laboratory in 1943; i.e., 1 year after I was refused Federal grants for this type of work.

(*b*) The second illustration may be just as striking. The first antibiotic isolated in my laboratory, in 1940, was actinomycin. It proved to be too toxic for the human body and did not have any immediate practical application. We set it aside, and proceeded with our search for less toxic materials which led us to the discovery of streptomycin 3 years later. We continued our interest in actinomycin only to a limited extent. However, in 1950–53, a group of German investigators demonstrated that actinomycin, when properly administered, is highly effective against certain forms of cancer, notably Hodgkin's disease and some others. In 1953, I decided to take up again the problem of actinomycin. I was encouraged to do so by a public-spirited private individual, who at once placed at my disposal $50,000 for this purpose. By the time that I assembled a proper staff and purchased special equipment, a year had passed and most of the fund had been used up. An application to the U.S. Public Health Service, however, brought a similar grant, and with this support we succeeded in isolating certain new forms of actinomycin (D) which appears to be somewhat less toxic. A number of clinicians became interested in these new materials, but unfortunately, the practical clinical results were not uniform. Some were good, others were not. The main problem, namely, the high toxicity of the preparations still remained. It is important to note, however, that two of the most eminent authorities on cancer in the United States made the following comments: "Actinomycin is by far the best drug that we have to treat certain forms of cancer." "As far as cancer of children is concerned, actinomycin can help in 20 to 40 percent of the cases; any physician who fails to use it in such cases is remiss of his profession." Nevertheless, the main problem remained, namely to obtain, either by chemical or biological means, other forms of actinomycin with lesser toxicity. We believe that we have found certain ways to accomplish this. In spite of this, the appropriate research grant division of the National Institutes of Health has just refused my application for a modest grant to continue the evaluation of the new forms of actinomycin prepared in our laboratories. Thus, the 1942 story has repeated itself all over again.

These personal experiences may help to illustrate a tragic weakness of the project and grant system. How to correct it? Easy enough. Place the necessary funds, without any strings attached, in the hands of selected institutions and individual scientists of renown and let them do what they feel is proper. They will.

The control or perhaps even the potential elimination of infectious diseases has become a reality. Other diseases are attracting our attention. What we have witnessed during the last 20 years has resulted in the elimination of most diseases of childhood, and in the increase of the average lifespan of man by 20 years. We must carry on this battle. It is for us in the United States to take the lead, to set the example; the rest of the world will follow. There is no greater contribution that we can make to the role of democracy in modern society, to the world today and to the benefits that will accrue to the peoples of the whole world, than by concentrating our efforts to control disease and epidemics, and to make the world a better place to live in.

Respectfully yours,

SELMAN A. WAKSMAN, *Professor Emeritus.*

[Translation (German)]

BERLIN-DAHLEM, *April 1, 1959.*

DEAR SENATOR: I received your letter of March 6 with great satisfaction. It seems to me that the establishment of an Institute for International Medical Research is a good idea, and I would consider it an honor to collaborate in it by contributing advice.

I beg to remain,

Very sincerely yours,

OTTO WARBURG,
Professor, Max-Planck-Institut Fuer Zellphysiologic.

THE UNIVERSITY OF ROCHESTER,
SCHOOL OF MEDICINE AND DENTISTRY,
Rochester, N.Y., March 18, 1959.

DEAR SENATOR HUMPHREY: I have your letter of March 6th and I agree that this problem is one of fundamental importance.

I wish to refer in this connection to a report of the President's Science Advisory Committee relative to strengthening American science (an introduction by President Eisenhower, date of December 27, 1958). That advisory committee is a very broad and well-informed committee and many of their recommendations touch the question raised in your letter of March 6th. I would mention specifically some of the points they make: (p. 2) "It is clear, therefore, that the strongest scientific program is the program with the greatest breadth and scope. It is impossible to predict from which quarter the next scientific advance will come—"; again (p. 4), "—the national program has seemed at times to be seriously deficient in stability, in continuity, in balance and in giving proper emphasis to creative research in the overall allocation of funds."; again (p. 6), "*The Challenge of New Frontiers*—With more emphasis on basic studies, the Government would be able to nurture research in wholly new areas of science."; (p. 8) "Despite the pressing need for tackling new scientific and technological problems with large-scale facilities, we must give full scope to the individual scientist who prefers to work alone or in small groups."; (p. 22) "In short, we urge that those who do research and development for the Government be allowed the flexibility which will give their competence and judgment the freest possible opportunity to serve the Government."; (p. 23) "The capital deficiencies in science also are being further aggravated by the rapid progress occurring in the improvement and inventions of the instruments of science themselves. Radio telescopes, animal colonies, electron microscopes, ——."; (p. 24) "It also has become necessary to find sources of enlarged support for the construction and operation of research facilities at college and universities."; (p. 33) "The *length of research contracts* or grants should in general be *three years*, to provide stability and continuity in research programs."; and (p. 34), "Those Government departments and agencies concerned should uniformly modify their grant and contract provisions to permit universities and nonprofit research institutions to charge the full cost of research performed for the Government—including overhead—and to amortize capital expenditures as an allowable cost."

Given more breadth in our research field, an invitation to research workers in other countries would have a stronger appeal, and more support for such exchange students would be a proper factor to speed international cooperation in this type of basic research. Additional funds to permit workers in this country to visit related laboratories in other countries would be highly desirable.

Visiting scientists or exchange investigators will do much to remove obstacles in cooperation. The more this subject is talked about, the better. If you wish to use any of my statements at any time, I hope you will feel free to do so. If you have specific questions, I will endeavor to give you the information.

Yours sincerely,

GEORGE H. WHIPPLE, M.D.

8. International, National, and Other Biological, Chemical, and Scientific Organizations

Senator Humphrey. In approaching its mission, this subcommittee has taken a very broad view of its responsibilities. It has done so because, in our judgment, medical science cannot be circumscribed by any narrow, artificial boundaries.

Medical science has benefitted from its very inception from other sciences, just as it has contributed to them. The fact is that science is indivisible. Science is constantly cross-seeding its discoveries.

This section of the entire volume is designed, therefore, to make available some of the pertinent information which the subcommittee has compiled.

IMPORTANCE OF INTERDISCIPLINARY COOPERATION

The subcommittee has heard from a wide variety of specialized organizations, national and international, in the fields of biology, biochemistry, chemistry, biophysics, physiology and many other fields. In addition, we have corresponded with certain individual American and foreign scientists whose interests range across the board into a wide array of scientific fields.

One such individual is the able President of the American Association for the Advancement of Science, Chauncey D. Leake, Ph. D. Dr. Leake has occupied a great many honored posts, including Chairmanship of the Board of the Federation of American Societies for Experimental Biology. He symbolizes in my judgment the finest caliber of multidisciplinary scientific leadership.

Another such individual who has given us expert judgment is Lloyd Berkner, Ph. D., President of the Associate Universities and President of the International Council of Scientific Unions. The honors which Dr. Berkner has received from his colleagues, like those conferred upon Dr. Leake, confirm that today more than ever before science esteems men of vision and statesmanship who rise to the fullest challenges.

Still a third is Professor Maurice B. Visscher of the University of Minnesota, whose fame extends into many scientific areas.

There will follow a few illustrations of our correspondence with other officials who have served and are now serving in various international organizations in a variety of scientific fields, apart from medicine, as such.

A. COOPERATION IN PHYSICAL BIOLOGY

Few more convincing indications of the importance of physical biology are available than an important statement presented by Dr. James A. Shannon, Director of the National Institutes of Health, in the course of an address which he delivered before the New York Committee on Tuberculosis and Public Health on April 29, 1958, a few months before our study began. There follow a series of excerpts from that address in which he made certain expert predictions as to trends of medical research.

Events since that address in the form of research in protein synthesis and related fields have dramatically underscored Dr. Shannon's comments.

EXCERPTS OF ADDRESS BY JAMES A. SHANNON, M.D.

A LOOK AHEAD

It would appear that even as the beginning of biochemistry had its initial impact upon medical research in the late 1930's, so the initial impact of physical biology is a phenomenon of the late 1950's. It is predictable, with the present tempo of medical research, that in a 10-year period physical biology will be as all pervasive in medical research as biochemistry is today.

Physical biology is the general area of science which—not being physics, chemistry, or biology—encompasses a portion of each. It is one of the new frontiers in the biological sciences. It brings to biology the tools, the models of thought, and—most important of all—the scientists that heretofore had their home in the university departments of physics, physical chemistry, and mathematics.

* * * * * * *

The physical biologist is interested in the physical characteristics of molecules which facilitate or prevent chemical interaction—the electrical charge and its distribution, molecular shape and size, the placement of the molecule in an oriented lattice. He is also interested in the presence or absence of physical barriers, commonly called membranes. These may separate molecules and ions, at times maintaining very high diffusion gradients; they may at times prevent chemical interaction; but they also at times have been held to facilitate specific reactions. Diffusion across membranes is essential to life.

Other aspects of physical biology relate to studies of nerve impulse conduction, of contractility of muscle (whether cardiac or voluntary), and of the chemical and physical bases of bioelectric currents in living tissue, such as are put to practical use in the electrocradiogram. One could give many other examples.

Studies of these general types are being aided by a whole host of new or improved instruments of precision which are rapidly being brought from the university laboratory of the physicist and pure chemist into the arena of the biological and medical research laboratory, or are developed de nouveau for this new and important area of medical research. The automation that accompanies them produces precise data in such large volume and complexity that it would tend to confuse rather than clarify were it not that the chemist, physicist, and the physical biologist are bringing their friends, the theoretical mathematicians and their computers, with them. I can assure you that this particular frontier of medical science is no place for the medical research worker of yesterday with his test tubes, solutions, pencil, and slide rule.

You may ask, "What do these new techniques portend?" I believe medical research is on the threshold of understanding the nature of intracellular reactions and obtaining insight into the complex processes involved in the reproduction of specific protein—whether albumin, antibody, or nucleoprotein (the carrier of genetic differentiation and the molecular basis of heredity). We will obtain a physical as well as a chemical understanding of the important changes strikingly apparent in such collagen diseases as arthritis, an essential of our overall understanding and management. We will finally approach an answer to the problem of what is a virus and what is the physical basis for its intracellular multiplication, which at times devastates the host cell in the causation of disease and at other times resides there as a friendly lodger.

The tools and techniques of physical biology will permit an extension of those studies which are directed toward clarifying the role of viruses in the causation of cancer. The establishment of such a role, which I believe is shortly to be past history, will be one of the greatest scientific breakthroughs of modern medicine.

In part from these same techniques, it is predictable that there will eventuate highly potent, purified, and perhaps modified viral antigens for use in the prevention of a whole host of vital diseases which now plague mankind.

And one could go on.

I firmly believe these advances are coming; some, though not clearly in sight today, are no doubt just over the horizon.

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EDITORIAL FROM JOURNAL OF AMERICAN MEDICAL ASSOCIATION

Senator HUMPHREY. The fundamental unity of science has been commented upon frequently by the American Medical Association. It has pointed up many illustrations of how medical doctors have

drawn upon the discoveries of doctors of philosophy in other sciences. Quoted at this point is a pertinent editorial which appeared in the Journal of the American Medical Association.

[Journal of the American Medical Association, July 25, 1959]

BIOCHEMISTRY AN AID TO PHYSICIANS

The rapid evolution of new diagnostic and therapeutic techniques is an obvious result of the ever-increasing rate of scientific research. Less obvious is the fact that some fundamentals of medical science are being transformed by the accumulation of biochemical knowledge, thus making understandable some previously incomprehensible biological phenomena. As long as 28 years ago, in an editorial, the Journal stated:

"Physiologic chemistry—or biochemistry, as it has been commonly designated more recently—has long since come of age. The subject has become an important and integral part of the study of medicine and the practice of the art. The special technic of biochemistry has been introduced into clinical diagnosis to such an extent that it competes in prominence with physical procedures and with bacteriologic and immunologic methods of examination and research."

In more recent years biochemistry has developed an importance which predicts that medical science in the future will be taught and applied still more widely in terms of biochemical events.

Medical science is entering a phase now in which many aspects of medicine, such as inborn errors of metabolism, intermediary metabolism, energy transfer, infection by bacteria and viruses, mental processes, gene and chromosome composition, and many others are being studied and interpreted at the molecular level. Some of the most intense study in biochemistry has been on the structure and function of enzymes and the interrelationships of the enzyme systems in the body processes. Knowledge in this field has increased to a stage where many of the balanced mechanisms of enzymatic body reactions are understood in stepwise detail.

These changes pose an important problem to practicing physicians. However difficult it may be to keep abreast of this new knowledge, it seems apparent that the practice of scientific medicine in the future will depend in large part on the realization of its impact. Despite the complexity of these newer relationships, their importance makes it desirable, at least, for physicians to attempt to gain insight into the current trends in medicine that are influenced by biochemistry.

The Journal believes that it can be of further help to physicians in calling attention to biochemical advances that are closely related to the practice of medicine. To this end there will be published at short intervals a series of editorials on this subject. The first one will appear in the Journal, August 8.

EDITORIAL BY WALTER C. ALVAREZ, M.D.

Senator HUMPHREY. One of Minnesota's and America's most honored physicians, Dr. Walter C. Alvarez, has also commented on the value of interdisciplinary cooperation. The following is an editorial which he wrote in the noted magazine, "Modern Medicine," the Journal of Diagnosis and Treatment, of which he is editor-in-chief.

[Editorial from January 15, 1960, issue of Modern Medicine]

HELP FROM OUTSIDE ONE'S SPECIALTY

In these days when, in some institutions, the unpardonable sin is for a man to make a discovery in a field that has been assigned to an associate, it is delightful and refreshing to read that, at the recent fiftieth anniversary celebration of the Neurological Institute at the Presbyterian Medical Center in New York City, Sir Francis M. R. Walshe of London said that, during the last thirty years, he has been watching contentedly as many men—not neurologists—have kept discovering all sorts of things in his field, such as diseases of the nervous system due to certain vitamin deficiencies or to certain errors of metabolism. Very helpful, of course, have been the new technics for research, such as electroencephalography obtained from physicists. Actually, Sir Francis urged his fellow

neurologists to devote more of their time to research in enzyme chemistry, tissue cultures, biochemistry, and physical chemistry. He might have gone on to say that recently the great brain physiologist, Dr. Ralph Gerard, said how thrilled he was at a congress of investigators into the activities of the brain to see men with so many different trainings and ways of attacking their common problem coming together to swap information. It was a good sign of progress.

Men who tend to be dog-in-the-mangerish in regard to their chosen fields of study need to be reminded that the late Ernest Lawrence, who built up the huge research plant on a hill in Berkeley, Calif., was always extremely generous with all men working in physics or on its borderlands. He maintained that there would always be enough research for everyone to do. I like what the great Karl Pearson said when someone asked him to what he would ascribe his wonderful success in science. He said, "I guess it is due to my great tendency to poach on my neighbors' preserves!" If I may add a note from my own experience: In 1911 and 1912, when I searched the literature of gastroenterology and human physiology for information which might lead to an understanding of the production and excretion of gas in the bowel, I found practically nothing. Then, I remembered that veterinarians always have had to struggle with the problems of the "bloat" which, each year, kills thousands of horses, cattle, and sheep. So, I looked through the literature on veterinary physiology, and there I found the information I wanted. Later, I spent part of a summer with a physiologist from a veterinary school. In 1913, when I wanted to find out why waves tend to keep running aborally in the digestive tract, I got most help from Professor C. M. Child, who had spent his life studying the metabolic gradients which control the growth of plants and eggs and marine animals.

A few weeks ago, I was visiting Dr. DeBakey's big department of arterial surgery. In almost every room, I found physicists working with piles of apparatus of the type that one finds in physics laboratories. A while ago, in Berkeley, I visited in Dr. Wendell Stanley's great laboratory for the study of viruses. In room after room, I found able chemists whose one great interest in life was the study of nucleic acids. When, in Pasadena, I dropped in for a visit with the great Dr. George Beadle, a geneticist, I found him and his group of chemists working, not with the usual fruit flies, but with a bread mold. They were studying the metabolic processes of the bread mold, and, along the way, finding much that can be of great interest to the student of hereditary defects in the metabolic process of man. Also, in Pasadena, I found a great chemist, Dr. Pauling, studying defects in body chemistry that can produce feeblemindedness. It would seem obvious from all this that the best thing a researcher can do, especially when he gets to an impasse in his work, is to go out and borrow a wonderfully helpful new research technic from someone in another field.

B. WORK OF INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS

Senator HUMPHREY. The general question may rightly be asked, "How may maximum cooperation be promoted on an international basis between all of the various sciences?"

To help answer this question, the committee turned to the International Council of Scientific Unions. ICSU, as it is known in abbreviation, is in a unique position to advance world teamwork in the physical sciences.

Three unions within ICSU are of special interest to our study; they are the International Union of Biological Sciences, the International Union of Physiological Sciences, and the International Union of Biochemistry. Accordingly, we contacted officers of ICSU, of IUBS, IUPS, and IUB. We contacted, as well, the able organization which represents the United States among the international scientific academies—our own National Academy of Sciences—National Research Council.

There follows a brief description of the work of these international unions, as described in the ICSU Review and the 1958 International Yearbook of Associations.

What Does ICSU Stand For?[20]

Alexander von Muralt

Treasurer, International Union of Physiological Sciences, Former President of the ICSU

Very often in research laboratories, universities, and at international meetings of scientists I have been asked this question. Those who asked were usually capable men of science, outstanding in their own field and well informed in science. The question was accompanied by a polite smile showing clearly that the interest was slight but that out of courtesy it was felt the question should at least be asked. (I happened to be the president of ICSU at that time.)

And now, being no more engaged with any of ICSU's activities, I ask myself: what does it really stand for? It seems to be a symptom of our time that a great number of international organizations are not only obscure with regard to their letterheads, but also if one is urged to describe their purpose in simple terms.

In the first half of this century it was possible, to a certain extent, to contemplate science as a whole, as well as the specialized field in which one was working. Publications were not too abundant, so that they still could be read. The percentage of men who can contemplate a broad area of science today is constantly decreasing and one may fear that it is approaching zero. Physically as well as intellectually it has become quite impossible to digest the vastly increasing bulk of scientific publications. One is more and more reduced to reading everything "diagonally" or even to leave certain journals "untouched." Scientific information is spreading again, as in mediaeval days, through personal contacts at breakfast and lunch tables, meetings and gatherings, and many younger scientists content themselves with this kind of information and no longer take the time to study the original papers. One-sided, superficial, and very restricted exact information is the result of this deplorable trend. International cooperation in a new form of scientific publication becomes very important.

Another method of spreading new knowledge, and thus establishing the intellectual community of the scientists of the whole world, has been the organization of congresses. If we pretend that congresses still fulfil their original task, we may just as well close our eyes completely before the facts. Congresses have become gatherings where the numbers range high in the thousands and even reach ten thousand and more. Those who go to such congresses with the best intentions to attend the lectures end, after a day or so, in frustration. Those who have known the good old days, where an international congress had a hundred participants or less and where all papers could be read to general meetings, attempt to keep up something of the old tradition in the lobby and at the cocktail parties with their old friends. For the young scientists this only increases their discouragement. They are not invited to these parties and find themselves giving their papers before an audience from which those to whose opinion they would attach most weight, are conspicuously missing. The organization of congresses has become a serious problem, even on the regional scale, for another reason. Entertainment has to be provided and the sums expended every year on congresses grow in an alarming way. At the same time their efficiency in spreading knowledge vanishes. A severe crisis in our methods of spreading knowledge and of maintaining the community among scientists in the world is developing. Something must be done. What can ICSU do?

International Unions in the major fields of science were organized, beginning in 1919, to coordinate and develop scientific activities hitherto scattered. 1919: International Astronomical Union, IAU; International Union of Geodesy and Geophysics, IUGG; International Union of Chemistry, now called International Union of Pure and Applied Chemistry, IUPAC. 1921: International Scientific Radio Union, URSI. 1922: International Union of Pure and Applied Physics, IUPAP. 1923: International Union of Biological Sciences, IUBS; International Union of Geography, IUG; International Union of Mathematics, IUM.[21] 1947: International Union of Crystallography, IUCr; International Union of Theoretical and Applied Mechanics, IUTAM; International Union of History of Sciences, IUHS. 1955: International Union of Physiological Sciences, IUPS; International Union of Biochemistry, IUB. At the start the International Re-

[20] ICSU Review, Vol. 1 (1959), p. 3.
[21] Discontinued in 1932 and reorganized in 1952.

search Council had control over 8 unions. In 1931 the IRC was transformed into the International Council of Scientific Unions ICSU and the Unions became autonomous but stayed within the framework of ICSU.

Let us study how ICSU could tackle the crisis of scientific information which becomes so apparent, at least in my mind. How could it be done? By its statutes its chief object is to coordinate and to facilitate the activities of the 13 scientific unions and to make such mutual arrangements with the unions as are deemed necessary where common interests exist. If the unions decide to act in view of the crisis, they could ask ICSU to coordinate their efforts, but ICSU can also take the initiative. Why is ICSU not doing anything? Should we call ICSU and say: "Wake up, wake up!" No! ICSU is doing something, but—and that is the sad aspect of the problem—the scientists who are sceptical about international organizations have usually no idea what is being done and how very difficult it is to achieve anything on the international level.

There are four special organs of ICSU that are doing excellent work in view of co-ordinating scientific efforts. The ICSU Abstracting Board, IAB, has engaged itself in one aspect of the spread of information by co-ordinating and facilitating the abstracting services. In Physics IAB has already been very successful and in Chemistry and Biology the experience gained in simplifying and speeding up physical abstracting will be very helpful, provided that satisfactory arrangements can be found. The special Committee for the International Geophysical Year, CSAGI, has done a remarkable job in organizing the largest international joint effort in science that this world has ever seen! The Special Committee on Oceanic Research, SCOR, has a similar task in view of the varied aspects of scientific research in the deep sea. The Federation of Astronomical and Geophysical Service's FAGS, unites all the important international permanent services in geophysics such as the Bureau de l'Heure, the Latitude Service, etc., and is a typical effort to coordinate international scientific offices and to make their services available to all countries. A detailed study of these four organs will reveal, even to the greatest sceptic, that ICSU is doing extremely valuable work and is awake.

In addition there is the problem of "borderline" research, fields where the classical science groups have common interests and where a co-ordination is highly desirable. There is a joint commission on problems of the ionosphere where astronomers, geophysicists, physicists, engineers and radio-men are working jointly; another on radiometeorology; one each on solar and terrestrial relationships, spectroscopy, and applied radioactivity. It is my own experience that these joint commissions are doing admirable work and here again far too little is known about this international activity to "the man in the research lab." And what is the result? It is sometimes very difficult to get the collaboration of good young scientists and yet, what is a joint commission without their enthusiasm and support?

So many people say "one should" and so few "I am ready to serve!" Without a considerable amount of very hard work and full hearted support by young scientists who are willing to sacrifice some of their time for international cooperative problems we shall never be able to overcome the present crisis of the scientific community and we shall end up in a new tower of Babel. The Unions and ICSU are existing tools which must be used by eager and courageous young scientists to prepare our scientific future. These organizations are of just as much worth as the men who are working in them! It is useless to call: "ICSU wake up!" "*Scientists wake up!*" It is up to you to make use of existing international structures in order to improve the present situation and to save the humanistic aspect of science. True scientists speak an international language, understood everywhere—the language of knowledge. Scientists of all countries can be friends because in their daily work, in trying to advance knowledge, they realize more than any other group the extent to which their achievements depend on work that is going on in other parts of the world. They know that every step forward is a step that has been made possible through combined human effort. At the basis of all scientific work there is a truly international spirit. And this is exactly what ICSU stands for. But only if you, my dear reader, are willing to share the work and to support it! ICSU stands for what those who are willing to serve stand for!

Summary Descriptions of Work of Three International Unions [22]

International Union of Biochemistry—IUB

Sec.-Gen.: Prof. R. H. S. Thompson, Department of Chemical Pathology, Guy's Hospital Medical School, London S E 1. T. HOP 3500, Ext. 377.

Founded 5 Jan 1955, London; succeeded International Committee for Biochemistry.

Aims: Encourage continuance of a series of International Congresses of Biochemistry; promote international co-ordination of research, discussion and publication; organize a permanent co-operation between societies representing Biochemistry in adherent countries; contribute to the advancement of Biochemistry in all its international aspects.

Members: Members of national committees in 23 countries: America: Canada (8), U.S.A. (8).—Asia: China (5), Japan (10).—Australia (6).—Europe: Austria (6), Belgium (8), Bulgaria (5), Czechoslovakia (6), Denmark (15), Finland (6), France (12), Germany (7), Hungary (5), Italy (9), Netherlands (10), Norway (7), Poland (11), Portugal (5), Spain (8), Sweden (14), UK (22), U.S.S.R. (10).

Structure: General Assembly (every 3 years), consisting of 2 members each from France, Germany, UK, USA, USSR, and 1 each from the remaining countries, elects Executive Council of 20. Meetings are closed.

Staff: 6 voluntary. Languages: English, French.

Officers: President: Prof M. Florkin (Belg); Treasurer: Prof E. H. Stotz (USA); Sec-Gen: R. H. S. Thompson (UK).

Finance: Subscriptions of member countries $100–$200. Grants from ICSU.

NGO relations: Member of International Council of Scientific Unions, which is in consultative status with UNESCO.

Activities: Organization of international congresses of biochemistry and international symposia; International Commission on Enzymes.

Congresses: London 1955, Brussels 1955, Vienna 1958.

Symposia: Moscow Aug 1957, Tokyo Oct 1957.

Publications: Development of International Organization of Biochemistry by E. H. Stotz in Federation Proceeding (1956) 15, 807. Reports of congresses and symposia.

International Union of Physiological Sciences—IUPS

Maurice B. Visscher, Department of Physiology, University of Minnnesota, Minneapolis 14, Minnesota, USA.

Treasurer: A. von Muralt, Hallerianum, Buhlplatz 5, Bern, Switzerland.

Founded: Sept 1953, Montreal, at 19th International Physiological Congress. Functions previously administered by Permanent Committee of International Physiological Congresses, set up in 1891. Statutes revised 1956.

Aims: Encourage the series of International Physiological Congresses; encourage the promotion of such other international congresses as may be needed for the advancement of the sciences; contribute to development of physiological sciences.

Members: National or Regional Physiological Societies in 16 countries: America: Argentina, Canada, U.S.A.—Asia: Japan.—Australia.—Europe: Belgium, France, Germany, Hungary, Italy, Netherlands, Scandinavia, Spain, Switzerland, UK, U.S.S.R.

Structure: General Assembly elects Council of 15 members for 6 years; Executive Committtee.

Language: English.

Officers: Executive Committee—President: C. Heymans (Belg); Vice-Pres: B. A. Houssay (Argentina); Sec-Gen: Maurice B. Visscher (U.S.A.); Treasurer: A. von Muralt (Switz); Other Council Members: Prof. G. L. Brown (UK); Prof. Charles H. Best (Canada), Prof. K. M. Bykow (U.S.S.R.), Prof. Yas Kuno (Japan), Prof. E. Lundsgaard (Denmark), Prof. C. Soula (Fr), Prof. H. H. Weber (Ger).

Finance: $50 per annum per delegate, to a maximum of 5, for each adhering national organization.

NGO relations: Member of International Council of Scientific Unions and Council for International Organizations of Medical Sciences, which is in consultative status with UNESCO, WHO.

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[22] From "Yearbook of International Organizations," 1958–59.

Activities: Plans for Travelling Lecture-Conference Team to tour Universities in different countries starting with South America in Spring, 1958.
Congresses: 19 up to 1953; Brussels in 1956, Buenos Aires Aug 1959.
Publications: Proceedings of Congresses.

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES—IUBS

Secretariat General: Istituto di Genetica, Via Mezzocannone 8, Naples, Italy.
Publications Office and Secretariat: Laboratoire de Physiologie Végétale, 1 rue Victor Cousin, Paris 5°.
Founded: 1919 Brussels. Statutes modified 1955.
Aims: Promote development of different branches of pure and applied biology; organize international discussion and publication of research work; facilitate establishment and development of research institutes open to workers of all nationalities; encourage organization of international congresses and publication of their proceedings.
Members: National committees in 33 countries: Africa: Egypt, Morocco, Un. of S. Africa—America: Brazil, Canada, Colombia, Mexico, Peru, U.S.A.—Asia: China, India, Iran, Israel, Japan—Australia—Europe: Austria, Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, U.K., U.S.S.R., Yugoslavia.
Structure: General Assembly (every 3 years); Executive Committee composed of Bureau and 2 representatives of each Division.
Officers: Exec. Committee—President: S. Hörstadius (Sweden); Vice Pres.: R. E. Cleland (U.S.A.); Sec. Gen.: G. Montalenti (Italy); Secretary: R. Ulrich (Fr.); Treasurer: J. Lanjouw (Neth.); Divisions—Botany: P. Chouard (Fr.); J. Rousseau (Canada); Zoology: E. Handschin (Switz.), B. Rensch (Ger.); General Biology: A. A. Miles (U.K.), P. Gaillard (Neth.).
Finance: Members' dues. UNESCO grants.
NGO relations: Member of International Council of Scientific Unions, which is in consultative status with UNESCO.
Activities: The 3 divisions incorporate 12 sections—Biometry, Botany, Cell Biology, Embryology, Entomology, Genetics, Limnology, Microbiology, Experimental Psychology, Zoology, Biochemistry, Physiology. Commissions on Applied Ecology, Biological Protection against Plant Pests, Photobiology. International commissions on Nomenclature: bacteriological, botanical, zoological. Maintains at Pavia, Italy, the Centre de culture des types de drosophiles sauvages. General Assemblies: 11 up to 1954; Rome 1955, London, July 1958.
Publications: News-Letters; assembly proceedings; reports of colloquia. Index des généticiens; Index des zoologistes.

C. CORRESPONDENCE FROM INTERNATIONAL SCIENTIFIC ORGANIZATIONS

Senator HUMPHREY. There follows a few of the many letters which we have received from officers of international scientific organizations not directly in the field of medicine, as such.

INTERNATIONAL UNION OF PHYSIOLOGICAL SCIENCES

THE UNIVERSITY OF ROCHESTER,
SCHOOL OF MEDICINE AND DENTISTRY,
Rochester, N.Y., July 28, 1959.

DEAR SENATOR HUMPHREY: Your letter to Dr. Daggs, executive secretary of the American Physiological Society, has been turned over to me as the chairman of the Committee on International Relations of the society. Actually, I have already written to you on this subject in another capacity (as president of the Society for Experimental Biology and Medicine). As a former president of the American Physiological Society, however, I am fairly familiar with the affairs of the physiologists and can perhaps supplement my former contribution with some comments particularly pertinent to this group.
Like other scientists, the physiologists have a keen interest in maintaining close relations with physiologists in other countries. To this end we are holding this summer our XXIst International Congress of Physiology in Buenos Aires. Except for an interruption due to the last war, this congress has been held regularly every 3 years. Recently it has been held under the auspices of the International Union of Physiological Sciences (IUPS).

The Secretary of the Union incidentally is Prof. Maurice B. Visscher of Minnesota, who is undoubtedly personally known to you. He can speak for the physiologists even better than I can.

American interests in this Union are considered by a U.S.A. National Committee on the IUPS which is sponsored by the National Academy of Sciences and of which at the present time I happen to be the chairman. Members of this committee are nominated by the American Physiological Society, the American Society of Pharmacologists and the Society of General Physiologists. One of the recent international efforts of the IUPS was a speaking tour of South American countries by a group of three physiologists including one from the U.S.A. Similar International Unions exist in biochemistry, biology, chemistry, physics, geology, astronomy, and mathematics and they certainly contribute tremendously to the advancement of science. They do not appear to be included in the documents which you sent to me.

The International Unions of which I refer are coordinated under the International Council of Scientific Unions, ICSU, which met in Washington in the fall of 1958. This organization contributes a great deal to the advance of biomedical science. At its last meeting it organized a Committee on Space Research, COSPAR. This group has held two meetings, both of which I have attended as a representative of IUPS. The main problem has been to get the U.S.S.R. to cooperate under the charter which was laid down by ICSU. The Russians want parity with the whole Western block of nations and are not satisfied with parity with the U.S.A. A new charter has been proposed which the Russians may or may not accept. My guess is however that it will not go far enough to satisfy their demands. The International Geophysical Year was so successful in obtaining cooperation of scientists internationally that it is hoped that COSPAR may have equal success in the new problems of the Space Science. These include a good many items of interest to biological scientists but I doubt whether any of them have much immediate bearing on the practice of medicine.

You ask further what can be done to strengthen worldwide cooperation. I list the following:

(1) Continue the generous financial support of ICSU and its unions and committees.

(2) Remove some of the present restrictions on visas for foreign scientists who wish to attend scientific meetings in this country. For example, some of the International Unions do and others may include scientists from Red China. We are now trying to invite IUPS to meet in Philadelphia in 1965 and they may well hesitate on this score. Red China is not now a member of that Union but there is of course pressure from Russia to bring that about and it cannot be denied that Red China includes a bona fide group of good scientists. The Union might therefore accept an application for membership from Red China in spite of the U.S.A. votes.

(3) Strengthen our scientific and cultural relations with South America by providing traveling fellowships for foreign scientists from that region who wish to visit and study in the U.S.A.; also by encouraging the study of Spanish in our schools and by sending scholars from this country to work and study in universities of South America. The Rockefeller Foundation has done a great deal to improve facilities of scientific institutions of South America and I know that grants have been made by our Public Health Service and by our Air Force for research work in South America. Much more could be done in this direction and would help our international relations there very much. It would also advance biomedical science by exploiting and implementing the talents of the South American scientists. I am leaving for South America myself in a few days and hope to accomplish something in improving personal contacts with scientists, particularly in the University of San Marcos where I have been invited to speak to the Faculty of Medicine (in Spanish). * * * Some 200 of my colleagues in physiology will be in South America this summer at the International Congress of Physiology, the first such meeting in the southern hemisphere. I am sure that these visitors will contribute much to international relations with the South Americans in the biomedical sciences. Most of these physiologists have travel grants directly or indirectly from the U.S. Government and they will be visiting many centers of learning on their way to or from that meeting. There will also be 30 physiologists from behind the Iron Curtain and similar numbers from European countries.

The physiologists are also interested in better abstracting service for the literature of the world, availability of foreign journals, exchange professorships and exchange students and international intercommunications generally as mentioned in my last letter to you.

* * * * * * *

Sincerely yours,

WALLACE O. FENN, *Professor of Physiology.*

INTERNATIONAL ASSOCIATION OF MICROBIOLOGICAL SOCIETIES,
Stockholm, December 26, 1958.

DEAR MR. HUMPHREY: With reference to your request to Prof. G. Penso for suggestions or reactions with respect to the International Health Study, which your subcommittee is now conducting, I can be quite brief because the pertinent information on the international health aspects of microbiology must already have reached you from the WHO. A large part of its work is concerned with infectious diseases, where besides the major projects (malaria, tuberculosis, venereal diseases, and yaws) many other activities call for the highest microbiological competence (tracoma, lepra, rabies, yellow fever, plague). It coordinates studies on Brucellosis in 14 laboratories and directs a worldwide polio survey. Its World Influenza Center in London is a good example of the type of organization built up. The Center directs laboratories in 46 countries and is thus in the position to follow epidemics and to identify new strains at an early stage. The importance of this kind of work cannot be overestimated, but it should be pointed out that the effectiveness depends on the completeness of coverage. It is very unfortunate that the political situation obviously does not allow a really worldwide contact via the WHO. The last influenza pandemic for instance started among the 460,000,000 population of the Peoples Republic China and as a consequence valuable time was lost before the vaccine production could start in America and in Europe.

As mentioned above the WHO is in the best position to yield information about the public health aspects of medical microbiology. Here it will only be pointed out that general microbiology must not be forgotten as a factor in public health. The quantitative/qualitative food shortage and the organic pollution of water supplies are for instance major health problems in the world. Microbiological technology may help to furnish solutions to those problems. Cheap and nutritive foods may be produced with yeast—instead of meat extract—and with confectioned yeast and possibly fatyeast (Rhodutorula gracilis), algae (Chlorella) and Champinion mycel as important constituents. With respect to the qualitative deficiencies, not only vitamins but also different aminoacids (lysine methionine etc.) must be remembered. To some extent they may be produced from waste products, either directly or by means of microbiological synthesis, and in this way many industrial wastes could be utilized. Mention should here be made of sulphite liquor, refuse water from fishmeal factories (may contain 20% of the protein of the processed fish plus watersoluble vitamins such as B_{12}), food industry wastes (15–20% of the handled quantity in the case of peas and 40–50% in the case of carrots) and silage juice (10–20% of the greenmass becomes juice with a dryweight of about 5%, 80% of which is fermentable carbohydrate). The polluting effect of those wastes is considerable. For instance, if a farmer lets the juice from 100 metric tons of greenmass get out into a stream, it has the same effect as the sewage from a town of 6,000 inhabitants. City sewage may incidentally be an excellent source of vitamin B_{12}, and other substances that may be useful in the microbiological utilization of classical raw materials such as lactose, whey and molasses. Information about those different aspects of microbiology should be available through the FAO.

In closing I like to add the personal comment, that to an outside observer, it seems unfortunate that the Berkner Report on Science and Foreign Relations (Dept. of State, Publ. 3860, Gen. Foreign Policy Ser. 30, May 1950) has not been followed up more thoroughly. A network of science attachés would seem to be the natural way of coordinating diverse U.S. science activities abroad, "whereby the resources of the taxpayers of the United States may be used with increasing efficiency." The dissipation of information from science attachées with medical training could be of great value to the countries where they were stationed. If they could help to effect release on U.S. Contact Report etc., much duplication of effort could probably be avoided.

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It was a great pleasure meeting you at your recent visit to Karolinska Institutet. I hope that you will have the peaceful Christmas you must need after your extensive travels.

Sincerely yours,

C.-G. HEDÉN, *Secretary General.*

FOURTH INTERNATIONAL CONGRESS OF BIOCHEMISTRY,
Vienna, August 17, 1959.

MY DEAR SENATOR HUMPHREY: In the enclosure you will find my report for the Study of the Subcommittee on Reorganization and International Organizations, which I have tried to prepare according to the instructions given in your letter of July 9. As the Biochemistry Congresses are to a certain degree dependent on the International Union of Biochemistry, I considered it necessary to include a statement concerning this Union into my report.

* * * * * * *

I should be very glad if my report could be of any use for the work of your subcommittee. You are of course perfectly free to use only [any] part of the material contained in my report.

With all good wishes, I am

Sincerely yours,

Dr. O. HOFFMANN-OSTENHOF, *Secretary General.*

A REPORT ON INTERNATIONAL COOPERATION IN BIOCHEMISTRY. THE INTERNATIONAL UNION OF BIOCHEMISTRY AND THE FOURTH INTERNATIONAL CONGRESS OF BIOCHEMISTRY, VIENNA 1958

(By Dr. O. Hoffmann-Ostenhof, Professor of Biochemistry, University of Vienna, Austria; Secretary General, Fourth International Congress of Biochemistry)

I

Biochemistry, i.e. the chemistry of the living material, is a border science between various branches of medicine, biology and chemistry. In this report it is probably unnecessary to emphasize the importance of Biochemistry. It may suffice to state that vitamins, hormones, enzymes, and antibiotics fall into the range of Biochemistry and that, at least in the last decade, Biochemistry was one of the most actively progressing branches of science.

The intermediate position of Biochemistry may have been the reason why for a long time in most parts of the world Biochemistry has not been considered an independent branch of science but rather a part of either chemistry or physiology. Due to this situation, international cooperation in Biochemistry on an official level started relatively late. While, e.g., in the United States the American Society of Biological Chemists has been founded already in 1906, similar organizations did not exist in most other countries until quite recently. Therefore, the First International Congress of Biochemistry was held in Cambridge, England, as late as in 1949, a meeting attended by 1,741 persons from 42 countries. At the concluding meeting of this Congress, those in attendance voted for the creation of an International Union of Biochemistry, and established an International Committee, not only in order to organize further Congresses but also to approach the International Council of Scientific Unions (ICSU) toward admission and recognition of a Union of Biochemistry. After a very successful Second Congress of Biochemistry in Paris, 1952, the International Union of Biochemistry was established in 1953 at a meeting in Brussels, and was recognized by and admitted to ICSU in 1955. In 1958 the Union also joined the Council for the International Organization of the Medical Sciences (CIOMS), thus documenting the intermediate position of Biochemistry between pure and medical sciences.

According to its statutes, the objects of the International Union of Biochemistry are: (a) to encourage the continuance of a series of International Congresses of Biochemistry; (b) to promote international coordination of research, discussion and publication; (c) to organize a permanent cooperation between the societies representing Biochemistry in the adherent countries; and (d) to contribute to the advancement of Biochemistry in all its international aspects.

The Union consists of a group of national organizations, mainly national Biochemical Societies, who usually count all people actively interested in Biochemistry in their respective countries among their members. The adhering organizations have to pay an annual subscription to the Union. At present, 400 dollars are to be paid by the adhering bodies of the following countries: France, Germany, United Kingdom, United States, and U.S.S.R. These organizations send two delegates to the General Assembly, while the member organizations of all other countries have to pay 200 dollars per annum and are entitled to one delegate in the General Assembly.

At present, the number of countries adhering to the Union is 25; they are: Australia, Austria, Belgium, Bulgaria, Canada, China (People's Republic), Czechoslovakia, Denmark, Finland, France, Germany, Hungary, Israel, Italy, Japan, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States, and U.S.S.R. Thus it may be said that almost all countries where biochemical research takes place are members of the Union. The General Assembly of the Union has power to decide all questions concerning the Union, including the modification of the statutes. The effective body of the Union, however, is the Council which consists of not more than 20 members who are elected by the General Assembly. From among its members the Council had to appoint a Bureau consisting of the President of the Union (vacant since the death of Prof. Linderstrøm-Lang (Denmark) in May 1959), the acting Vice President, Prof. M. Florkin (Belgium), the Secretary General, Prof. R. H. S. Thompson (United Kingdom), and the Treasurer, Prof. E. H. Stotz (U.S.A.).

The main activities of the Union in the years since its foundation have been:

(a) The organization of the International Congresses of Biochemistry, of which will be spoken later in this report.

(b) The organization of symposia, i.e., conferences on subjects of topical interest with a restricted number of invited participants. Until now, apart from symposia within the frame of the last International Congress of Biochemistry, two Symposia have been held, one in Moscow, U.S.S.R., in August 1957, on "The Origin of Life on Earth" with 50 scientists from outside Russia present, and one in Tokyo and Kyoto, Japan, in October 1957, on "Enzyme Chemistry," with 108 foreign scientists as participants. A third symposium on "Hematin Enzymes and Hemoproteins" will be held in Canberra, Australia, in September 1959.

(c) The Union has set up a Commission on Enzymes whose task is to consider classification and nomenclature of enzymes and coenzymes, their units of activity and standard methods of assay, together with the symbols used in the description of enzyme kinetics.

(d) In collaboration with a publishing firm—The Pergamon Press Ltd., London—the Union publishes a series of volumes containing the proceedings of the symposia and congresses. Until now, 17 volumes of this series have been published. The first two volumes are the proceedings of the two above mentioned symposia in Moscow and in Japan, each containing about 60 papers of leading specialists in the fields. The following 15 volumes are the Proceedings of the IVth International Congress of Biochemistry (see below).

In order to fulfill its tasks, the Union needs a higher income than that coming from the annual subscriptions of the member countries. While in the first phase of its existence, the Union was subsidized by a grant from UNESCO (3,000 dollars for the years 1955 and 1956), in recent years ICSU has given grants to support the activities of the Union (1957: 5,500 dollars, 1958: 7,000 dollars, and 1959: 5,000 dollars).

In conclusion to the description of the activities of the Union, it may be stated that in the few years of its existence international cooperation within its frame has always been very fruitful and undisturbed by political issues.

II

The Fourth International Congress of Biochemistry was held in the first week of September 1958 in Vienna, Austria, under the presidency of Dr. C. F. Cori, St. Louis, Missouri. The organizing body was the "Österreichische Biochemische Gesellschaft" (Austrian Biochemical Society) who appointed an organization committee with the present writer as the Secretary-General to the Congress. The scope of this Congress was the same as that of its predecessors (Cambridge 1949, Paris 1952, Brussels 1955), namely to offer a comprehensive survey of the state of the most topical problems in Biochemistry and to give biochemists from all countries of the world the opportunity to discuss these problems within the sessions and also informally in private meetings.

The Congress was held according to a program set up in close collaboration with the Bureau of the International Union of Biochemistry. There were four different categories of meetings, namely:

(a) Plenary sessions with lectures for the whole membership of the Congress; there were 14 plenary sessions: the opening and the closing sessions with lectures by Prof. E. Chargaff, New York, on "First Steps towards a Chemistry of Heredity" and Prof. A. E. Braunstein, Moscow, on "Some Aspects of the Chemical Integration of Nitrogen Metabolism," and 12 sessions in which the directors of the symposia summarized the most important papers and discussions of their symposia.

(b) Symposia on actual topics, for each of which four half-days were reserved. In each of these symposia, 10 to 18 invited speakers read papers on essential parts of the respective subjects. Sufficient time was made available for invited discussants as well as for discussion from the floor. The text of the papers of the invited speakers was preprinted and distributed to all participants. For the organization of each symposium a director was nominated, who, in collaboration with the Secretary-General of the Congress, was responsible for the program of his symposium. Due to the fact that in Austria a sufficient number of experts who could act as symposium directors was not available, the organization committee invited six scientists from the United States to help with the organization of the symposia.

The following symposia were held:

I. Carbohydrate Chemistry of Substances of Biological Interest
II. Biochemistry of Wood
III. Biochemistry of the Central Nervous System
IV. Biochemistry of Steroids
V. Biochemistry of Antibiotics
VI. Biochemistry of Morphogenesis
VII. Biochemistry of Viruses
VIII. Proteins
IX. Physical Chemistry of High Polymers of Biological Interest
X. Blood Clotting Factors
XI. Vitamin Metabolism
XII. Biochemistry of Insects.

(c) In addition so-called colloquia, approximately equalling the symposia in their scope but limited in time to one half-day, were organized. Also in this case, international cooperation was necessary for the organizational work. Amongst the directors of the colloquia there were two scientists from the United Kingdom, two from the United States, one from Belgium, and one from Japan. The following colloquia were held:

I. Metabolism of Sulfur
II. Biosynthesis of Purines and Pyrimidines
III. Oxygenating Enzymes
IV. Metabolism of C_1—Compounds in Microorganisms
V. Biosynthetic Mechanisms in Higher Plants
VI. Growth Chemistry of Homofermentative Bacteria.

(d) All members were entitled to read communications on their own findings in so-called sectional meetings. Subdividing the whole field of Biochemistry, 18 sections were organized. Also in the case of the sections, the help of foreign scientists as organizers was necessary. Of the section directors two came from Czechoslovakia, two from Germany, one from Hungary, one from Italy, one from Switzerland, and one from the United Kingdom. Two of the sections had a more special character: Section 13, "Chemical Pathology and Clinical Chemistry," was organized jointly with the "International Federation of Clinical Chemists," and Section 18, "Biochemistry of Lipids," took place as a special meeting of the "International Conferences on Biochemical Problems of Lipids". A volume containing the abstracts of all sectional papers was distributed to all Congress members before the Congress.

There were 3,684 scientists from 57 countries registered as active members of the Congress; furthermore 882 associate members were present. This was appreciably more than at the former Congresses of Biochemistry; in Brussels 1955, there were only about 2,000 active members. Among the membership of the Vienna Congress, very many well-known scientists were to be found, e.g., 15 Nobel-prize winners. The distribution of the active members of the Congress according to their country of origin is to be found in table I.

For the symposia and colloquia, it was the intention of the organization committee of the Congress to invite as speakers the most expert workers in the respective fields regardless of their nationality, in order to offer the highest possible standard to the Congress membership. Except of a few cases, caused either by personal or by financial reasons, the specialists invited accepted the invitation and, therefore, it may be said that the Congress was really a representative meeting of almost all top biochemists of the world. The distribution of the speakers invited to report in the symposia and colloquia according to their country of origin is to be found in table II.

In less than one year after the Congress the Proceedings of the Congress, consisting of 15 volumes with a total number of pages exceeding 4,000, were published as part of the already mentioned series of the International Union of Biochemistry. Amongst these volumes, the first 12 contain all lectures and discussions of the 12 symposia *in extenso*, the three other volumes contain the colloquia, the Transactions of the Plenary Sessions, and the Abstracts of the Sectional papers, together with an index to all volumes.

The costs of the organization of the Congress, excluding travel expenses for invited speakers, but including costs of the documentation distributed to the Congress members (approx. 40,000 dollars), were 55,000 dollars, of which amount approx. 36,000 dollars were covered by the subscription fees of the Congress members. The remainder had to be covered by subventions: the generous help of the Austrian Government and the City of Vienna, but also subsidies from various private agencies in Austria, in other European countries, and in the United States filled the gap.

Concerning the costs of travel and subsistence of the participants, and especially of the invited speakers, the Congress Committee was only in very few cases able to cover them. Although nothing certain is known on this point, it is quite possible that not a few Congress members even from very distant countries had to finance their attendance from their own pocket. In most cases, however, the institution where the individual member worked or some private or government agency subsidized the travel to the Congress. This was especially true of many members who either were invited speakers to a symposium or a colloquium, or had announced a paper to be read in one of the sectional sessions. This may be the reason why so many sectional papers were read. It seems that many agencies are quite willing to subsidize the travel from even far-distant countries to a Congress, if the name of the member is really to be seen on the program. In order to make the attendance of Far-Eastern and Australian invited speakers at the Congress possible, the Rockefeller Foundation gave a grant of 6,000 dollars, which was almost completely used up for this purpose. It must be emphasized in this context that, in some cases at least, lack of funds actually prevented the participation of very prominent scientists from various countries, including the United States.

As a criticism against Congresses of this size it is frequently heard that due to the multitude of papers delivered, the individual member is often not capable to hear all those communications in which he, according to his special field, is really interested. It must be admitted that there is some truth in this statement. Considering the fact that almost 1,800 papers were read during the Vienna Congress, it was a matter of course that very many parallel sessions had to be held. At least part of these disadvantages, however, were attenuated by a rigid time schedule allowing the Congress to make exact plans which sessions he wanted to

attend. Furthermore, the Congress offered an almost unprecedented opportunity for biochemists from all parts of the world to discuss their problems within and outside of the meetings. Finally the special value of the Proceedings of the Congress, which contain almost the complete material presented at the Congress, must be emphasized. They offer a most vivid picture of the present state of Biochemistry, which makes the work of the Congress also useful for people who did not attend.

III

Concerning the second question put before the writer of this report, namely, specific need of our organizations if they are to achieve their highest objectives, it may first be said that the subsidies given to the International Union of Biochemistry by ICSU are sufficient as far as, together with the annual subscription fees of the member countries, they allow the Union to continue work at its present scale. There is no doubt, however, that with relatively small subsidies from other quarters the Union could achieve much more in fostering international scientific collaboration by, for example, subsidizing the work of more commissions or by organizing more symposia on topical subjects. Considering the great importance of Biochemistry for almost all branches of medicine, such a subvention would certainly be a help in the conquest of disease.

The next Congress of Biochemistry will be held in Moscow in 1961. Knowing the situation in Russia and the other communist countries from own experience, the present writer is of the opinion that the organization of this Congress will be generously subsidized by government means, no outside help being required. As it is to be hoped, however, that also the Moscow conference will be an event of considerable scientific importance, it is desirable that provisions will be made to cover the costs of travel and subsistence of many participants from Western countries, especially biochemists of the younger generation.

Future congresses to be held in countries on this side of the Iron Curtain—and this applies not only to Biochemistry Congresses but also to all other conferences of similar standing—are, however, in a much less favorable situation. Congress organizers have to be good scientists because one of their main tasks is the setting up of a scientifically sound and interesting program. The success of a congress depends to a considerable part on the amount and quality of the documentation (preprints of lectures, abstracts of papers) to be distributed to the participants, and the cost of printing this material is very high. Although not well trained for it, the congress organizers have to use all their skill to find agencies willing to help by subsidies and must fear financial disaster until the end of the congress. Although they probably will never be made fully responsible for a financial failure eventually evolving, the situation is nevertheless somewhat degrading. The fact that in many cases important scientists cannot attend the congress due to the lack of funds is also seriously hampering the success and achievements of the congresses.

Relatively small sums would suffice to help in this situation. To give the example of the congress organized by the present writer, which was one of the international scientific conferences with the largest attendance ever held, a subsidy of 15,000 dollars given at the beginning of the organizational work would have facilitated the work of the organization committee appreciably. The travel expenses of all invited speakers who did not come due to the lack of funds could have been easily covered with that amount, and it would even not have been necessary to send out circular letters to so many industrial firms and other agencies begging for subventions.

In conclusion, the present writer wants to express his opinion that the planned National Institute for International Medical Research can become a most important factor in promoting international research collaboration. It is a matter of course that by far the major portions of the funds available for this purpose should be devoted for research grants. As, however, the existing international scientific unions and organizations of similar standing have already shown in the past that their work of coordinating scientific efforts in the various countries is of considerable use, and the exchange of opinions made possible at international scientific conferences is certainly a factor for the progress of science which should not be underestimated, modest fractions of the funds should be reserved for these purposes.

TABLE I

THE DISTRIBUTION OF THE ACTIVE MEMBERS OF THE VIENNA (1958) BIOCHEMISTRY CONGRESS ACCORDING TO THEIR COUNTRY OF ORIGIN

U.S.A.	694	Bulgaria	8
United Kingdom	620	India	8
Germany	472	Rumania	8
France	271	Lebanon	7
Austria	231	Portugal	7
Italy	190	Belgian Congo	5
Netherlands	141	Algeria	4
Switzerland	138	Mexico	3
Sweden	109	Iran	3
Czechoslovakia	81	Argentina	3
Hungary	75	Burma	2
Denmark	67	Chile	2
Belgium	67	French West Africa	2
U.S.S.R.	64	Malaya	2
Poland	60	South Africa	2
Yugoslavia	47	Venezuela	2
Norway	46	Colombia	1
Spain	38	Hong Kong	1
Canada	37	Indonesia	1
Israel	32	Jamaica	1
Japan	25	New Zealand	1
Australia	19	Nigeria	1
Finland	15	Pakistan	1
Brazil	14	Panama	1
Ireland	12	Peru	1
Turkey	12	Thailand	1
China	9	Trinidad	1
Greece	9	Uruguay	1
Egypt	8		

TABLE II

DISTRIBUTION OF THE INVITED SPEAKERS FOR THE SYMPOSIA AND COLLOQUIA AT THE VIENNA (1958) BIOCHEMISTRY CONGRESS ACCORDING TO THEIR COUNTRY OF ORIGIN

U.S.A.	168	Czechoslovakia	7
United Kingdom	67	Denmark	7
Germany	46	Hungary	5
Sweden	19	Australia	5
France	13	Canada	5
Austria	13	Poland	5
Switzerland	11	India	2
Netherlands	10	Israel	2
Italy	9	Norway	2
U.S.S.R.	9	Argentina	1
Japan	8	Spain	1
Belgium	7		

INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION,
Stockholm, December 22, 1958.

DEAR SENATOR HUMPHREY: I have received your letter of October 27, 1958, addressed to Mr. W. Binks, previous Secretary of the International Commission on Radiological Protection (ICRP). With regard to the Study of International Health Programs I can inform you that the ICRP is a nongovernmental body working under the auspices of the International Congresses of Radiology. It prepares recommendations on radiation safety standards and deals with the basic principles of radiation protection. There are at present four American members including the Vice Chairman, Professor G. Failla, in the Main Commission, where the members are chosen on the basis of their recognized activity in the fields of radiology, radiation protection, physics, biology, genetics, biochemistry and biophysics, without regard to nationality.

The ICRP has a cooperation with many organizations with interests in the field of radiation protection, e.g., IAEA, ILO, OEEC, UNSCEAR and WHO. This international cooperation is at present the object for organizational studies, and the Chairman of the ICRP, Professor Rolf M. Sievert, Stockholm 60, Sweden, might be able to give you further information in this respect after his return to Sweden from a visit to New York.

An especially fruitful contribution to the work of the ICRP can be noted with relation to American activities; namely, the work carried out at Oak Ridge National Laboratory on Maximum Permissible Concentrations of radioactive isotopes in air and water and in the human body. This has been done under the direction of Dr. K. Z. Morgan, who is the Chairman of the ICRP Committee II, on Maximum Permissible Doses from Internal Exposure.

Yours sincerely,

BO LINDELL, *Temporary Secretary.*

D. VIEWS OF NATIONAL SCIENTIFIC ORGANIZATIONS

Senator HUMPHREY. Within this section on American organizations, the first illustrative letter is from Hiden T. Cox, Executive Director of the American Institute of Biological Sciences (AIBS). This esteemed organization represents approximately 90% of the professional biologists in the United States. In this letter is pointed up what I regard as a most enheartening development in biology—the setting up of international joint committees. The importance of this type of direct collaboration can hardly be overestimated.

Another example of AIBS' work is in the report which follows thereafter. This report concerns increased communication and collaboration with biological scientists of the Soviet Union. Toward that end, Fred R. Cagle, Ph.D., Coordinator of Research, Tulane University, was asked to make a trip to the U.S.S.R. to obtain information useful in planning translation and related programs.

Upon his return, Dr. Cagle prepared a comprehensive summary of his findings on Soviet biological research. This report is extremely valuable in that it cites practical and specific problems and opportunities.

In view of space limitation within this volume, we reprint only a few of the introductory paragraphs concerning the objectives of Dr. Cagle's trip, together with the final section containing the conclusions and recommendations to the AIBS.

ADDITIONAL LETTERS INCLUDED

Another letter is from the Society of American Bacteriologists. Its comments fit in with the previously cited comments from the International Association of Microbiological Societies.

Thereafter will be found the views of another renowned scientific society—the Royal Society of the United Kingdom.

AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES,
Washington, D.C., February 23, 1960.

DEAR SENATOR HUMPHREY: I am writing to inform you of a project that the AIBS is undertaking in which, I think, you may be interested.

We in the Institute have been concerned for some time with the difficulty in communications between biologists of the world. We have initiated a number of projects aimed at furthering communications between biological scholars. We have a major translation program in operation; we have pioneered in launching publications in new media, etc. During the past year we have been developing the concept of establishing direct relationships between biologists of the United States and their colleagues in other countries. We feel that many prob-

lems can best be attacked by concerted efforts of biologists throughout the world rather than by those of a single nation. Accordingly, we are establishing joint committees on United States biologists and biologists of certain other countries. As an example, we have appointed such committees for the Soviet Union, India, Thailand and Taiwan. Each of these committees is composed of four to six United States biologists and a like number of biologists from the appropriate country. These committees will meet together alternating between the two countries. Problems common to scientists of the two countries can thus be identified and their solutions attacked directly.

You will note, I am sure, that these committees are established outside the governmental framework of any country. It involves direct relationships between biologists regardless of political boundaries. This project is sponsored entirely by the American Institute of Biological Sciences and the biologists of foreign countries. The initial financing is completely by Institute funds.

We would be pleased to have any comments or suggestions you care to make and we certainly hope that you follow the development of this program with interest. I shall take the liberty of informing you from time to time of the progress of this project.

Yours very truly,

HIDEN T. COX, *Executive Director.*

EXCERPTS FROM REPORT ON TRIP OF FRED R. CAGLE, PH. D., TO THE SOVIET UNION, AUGUST 10—SEPTEMBER 19, 1958

SECTION A. PLANNING AND ARRANGEMENTS

I. Preparations:

A. Objective of the trip:

1. To obtain information basic to the selection of Russian biological publications for translation.

a. Organization and planning in the basic biological sciences in the Soviet Union.

b. Nature and status of selected institutions producing biological research.

c. New significant publications in press, in manuscript, or in progress.

d. Opinions of Soviet colleagues on their literature.

e. Procedure in publication with particular reference to editorial problems.

2. To obtain information basic to the expansion of exchange agreements (literature, biological materials) between the institutions of North America and the Soviet Union.

a. Institutions willing to exchange; their desires and regulations.

b. Procedures and problems.

3. To procure specific biological publications of interest to American biologists.

4. To determine the problems of Soviet biologists in retrieval information.

5. To explore the potentialities of cooperative action (e.g. International Directory of Hydrobiological Stations; the production and distribution of microforms).

6. To study the graduate education of biologists, particularly in the areas of vertebrate ecology and systematics.

7. To provide Soviet biologists with information about American biology.

B. Preliminary studies:

The general reasons for this work were: the establishment of a basis for planning an itinerary (independent of Soviet suggestions); the preparation of a "working" list of Soviet biological serials for review during the visit to the U.S.S.R.

1. Objectives:

a. To prepare a working list of Soviet biological serials currently received in the United States.

b. To prepare a list of selected serials classified by major fields of primary interest to American biologists.

c. To determine location and activity of Soviet organizations doing biological research.

d. To prepare a basis for selection of cities to be visited.

e. To establish an outline of the administrative channels in Soviet science.

C. Procedure:

1. Lists of biological serials were prepared.

a. A list prepared from the most recent list published by U.S.S.R., "Ukazatel Sokashchennykh i Polnykh Magrang Nauchnoi i Tekhnicheskoi Literatury." This list was grouped by subject matter and used in discussion with Soviet biologists and librarians.

b. A list prepared from "Serial Publications of the Soviet Union 1939–1959," "Monthly List of Russian Accessions," "Sowjetische Literatur Zur Naturwissenchaft und Tecknik."

c. A list of Soviet journals of interest to biologists received by the Library of Congress and the Department of Agriculture Library.

2. Lists of institutions were prepared.

* * * * * * *

SECTION D. CONCLUSIONS

No attempt is made here to reiterate frequently repeated conclusions about Soviet science.

The following statements must all be considered tentative. They are based on limited experience and observation. Perhaps each conclusion should be substantially qualified.

I. Status of the biological sciences:

A. Planning:

1. *The agencies primarily influencing planning in the biological sciences (e.g., Communist Party, Academies of Sciences, Academy of Medical Science, Academy of Agricultural Sciences) are either dominated or strongly influenced by biologists.*

Biologists are often directly responsible for recognizing both short and long range needs for new knowledge and for insuring proper objectives, personnel and facilities to satisfy the needs. Their strong influence in both the party and government hierarchy is reflected in the development of biology.

a. The agencies responsible for planning have realistically recognized the needs for biological knowledge.

Planning has resulted in logical emphasis on those aspects of biology immediately pertinent to development. Tradition (e.g., Pavlovian physiology and Marxist theory) have strongly influenced development but these have not seriously inhibited the growth of research programs patterned to produce needed information.

b. Relief from Stalinism has brought recognition of the need of the biologist to have greater freedom in planning and pursuing his research.

Much of the planning in the biological sciences is now initiated by the working scientist. Annually he submits a research plan that is approved or disapproved by his supervisors. The relative amount of planning from the "bottom up" varies in the academies and may be substantially influenced by sudden demands from the upper levels of the hierarchy. However, the trend is toward permitting greater freedom for the individual scholar.

c. Biological science is valued not only because of the useful knowledge produced but as a valuable instrument in gaining world leadership.

The contributions of biology are utilized to "sell" the people of Asia on the superiority of the communist system. Two major devices are used—the sending of biologist-travelers and a great, free flow of biological literature to Asiatic countries.

d. The research programs of agencies are loosely coordinated to eliminate excessive duplication.

The republic academies now have significant stature and work quite independently of the Soviet academies. One of the clear results of the greater independence is a trend toward increasing the breadth and depth of research activities in republic academies. In the earlier development of republic centers their work was essentially restricted to an attack on practical problems of the region. There will be a large increase in fundamental biological research in the republics if the present trend continues.

The coordinating council for the academies rarely exerts a restricting influence.

e. Basic sciences are usually given equivalent position in the government hierarchy with applied sciences.

f. Scientists having major influence are not associated with the universities but are elements of the academy structure.

2. *Much emphasis is being placed on long-range planning in the biological sciences.*

a. The construction of new facilities and the modification of old ones is moving rapidly.

Plans for new facilities (e.g., Lake Baikal Limnological Station, Institute of Botany, Ukrainian Academy of Sciences) suggest that substantial expansion of biological research programs are contemplated. Too, it is apparent that facilities for visiting scientists are being provided.

b. Detailed plans for expansion of research activities are in preparation by biologist-administrators in the republic academies.

This planning is being done primarily by aggressive, younger people (age group 35–45) who occupy positions of influence in both the political and biological fields. Emphasis is being placed on the necessity for a fundamental approach to problems.

B. Current status:

1. *Close correlation between fundamental and applied biology is maintained.*

The distinction between applied and fundamental biology is not emphasized. Correlation is gained through the utilization of both approaches to similar problems in the same institutes.

2. Much emphasis is placed on systematics and ecology as the basis for a development of improved utilization *of resources of undeveloped areas.*

3. *Soviet biology lags perhaps two years behind American biology but, if the current rate of development continues, the new knowledge output may soon exceed that of American scientists.*

II. Communication:

A. *The library resources in Moscow and Leningrad are excellent but those of the southern republics are very inadequate.*

This situation is a reflection of the relative youth of the southern republics and the, until recent years, requirement that international exchange of literature be made through Moscow agencies. Republic academies and universities are now free to rapidly expand their exchanges.

1. *The energetic procurement program of the Institute of Scientific and Technical Information feeds current biological literature into the national libraries and thus effectively supplements their procurement activities.*

The institute provides only one copy for the library centers but this one copy provides procurement information useful in obtaining additional copies. Libraries outside Moscow are apparently not routinely informed of availability of technical literature.

2. Copies of all biological material published in the U.S.S.R. are directed to the national archives but not to republic centers.

B. *Publishing policy and financial support encourages the biologist to publish.*

1. *The biological literature is expanding rapidly.*

Biologists are highly motivated to publish. Financial rewards in the form of salary increases and specific stipends for major articles entice investigators to place their work in print. Often this results in premature publication.

2. *The best research is often published as separate monographs or reports.*

The tendency to publish monographs complicates seriously the American problem of obtaining the Soviet literature. The Soviet institutions do not routinely exchange such separate publications.

3. *The republics have established their own publishing houses.*

This continuing trend will contribute to increase and fragmentation of the Soviet biological literature. Too, problems of procurement will be correspondingly increased.

4. *No current, complete list of Soviet serials publishing biological materials is available.*

5. *Soviet biologists are exceptionally stimulated to publish popular and semipopular materials.*

C. *The Institute of Scientific and Technical Information attempts to compensate for poor libraries and inadequate library services through the publication of abstracts and the provision of photocopy and translation services.*

The demands for photocopies (microforms are not used) is not great. The biologists outside Moscow and Leningrad probably do not make extensive use of this service because of the difficulties and delay involved. Superficially, the service appears to be excellent but, judging by the republic biologists' knowledge of literature the service is not performing its major function.

Similarly, the translation service is not utilized intensively by biologists. The translation demand is essentially limited to those languages in which relatively little biological information is printed.

D. *The publishing agencies provide excellent advance notices of new publications.*

These advance notice publications perform their function well. They should be extensively utilized by American biologists and librarians as a basis for procurement.

E. *Soviet serials and mongraphs are published in editions only large enough to meet current needs.*

Few copies are held in reserve and most publications reach the "out-of-print" status rapidly. This handicaps their development of exchange agreements.

F. *Many serials are published in the regional languages.*

The intense nationalistic feeling in some of the republics results in the use of the national language. However, the trend is to publish all technical material in the Russian language.

G. *The Soviets do not appear to be fully appreciative of the biobliographic complications resulting from many changes in journal titles and format.*

H. *Intensive efforts are being made to resolve problems in establishing standards and equivalents in terminology.*

The efforts of the Soviet linguists and biologists are apparently not effectively coordinated with the activities of international groups. They should be working in close cooperation with the International Federation of Translators.

I. *Biologists and librarians urgently desire to expand literature exchanges.*

The typical Soviet librarian does not have the names and addresses of American institutions that may be interested in exchange. They appear to be unaware of how they should procede in order to establish exchange agreements.

J. *Soviet biologists are traveling extensively in the countries of Asia.*

Communication through person to person meetings has been effective in leading the biologists of Asia to appreciate Soviet progress.

K. *Soviet biologists urgently desire to receive more American biologists and to visit the United States.*

Very few American scientists interested in basic biology have visited the U.S.S.R. Delegations have ordinarily included persons interested in applied biology. Too, many of the republics academies and branches of the U.S.S.R. Academies have not been visited.

III. Education:

A. *The elementary schools do not place emphasis on basic biology.*

1. *The elementary schools have placed primary emphasis on agriculture and health.*

This emphasis is substantially different from that in mathematics, physics and chemistry. The student entering the university is much better prepared in principles of the physical sciences than in the principles of biology. It is evident that changes are being made to place more emphasis on fundamental generalizations.

2. *The organization, "Young Naturalists," contributes much toward leading competent young people to an interest in science.*

This organization makes effective use of the nature refuges and museums to develop interests in biology. The natural history approach is well utilized.

3. *The lower schools have produced a public quite well informed about science.*

This is one of the great advantages of the Soviet system. The layman takes pride in the new universities and research institutes and but rarely complains about the large investments in science.

B. *The university curriculum provides excellent, broad training in biology.*

1. *The formal courses are presented in a classical curriculum.*

The student is required to do much independent work during his fourth and fifth years. This independent work may be done in the university or in the field. The system of nature refuges is utilized by advanced undergraduate and graduate students engaged in research.

2. *There is no apparent effort to compel students to study specific fields of biology.*

The students are attracted to fields where there is much activity and challenging professors. Professors advise students of the government's need and this no doubt motivates the students to enter such fields.

C. *The absence of recreational resources encourages the use of leisure time for supplementary work or reading.*

This situation, combined with the availability of low cost books, has made the U.S.S.R. a nation of readers. One is tempted to conclude that these reading habits contribute more to the general increase in knowledge than the educational system so highly applauded by some Americans.

D. *The universities place primary emphasis on teaching. The professor is expected to assume specific, firm responsibility for insuring successful learning of each student.*

1. *The teaching loads in the University faculty are distributed depending upon the rank of the professor.*

The full professor may give only two lectures per week. In contrast the docent may handle 16 to 20 hours of laboratory instruction each week. Regardless, one has the impression that the teaching loads of the university faculty members are generally lower than the average load in biological science departments of the United States.

2. *The equalization of salaries of professors in the universities and the professors in the research institutes creates a situation which encourages the faculty member to place much emphasis on instruction.*

This equalization of salaries removes from the college professor the large pressure present in the American universities to be "productive" of research titles. Together with the equalization of salaries is the great emphasis upon the significance of education in the sciences. The biology teacher in the university thus fills an honored role as a teacher. If he desires to devote his time solely to research, he may be transferred to an institute of an academy located in the same city.

3. *Research biologists working in institutes with universities geographically close often participate in advance instruction in the universities.*

They take pride in the fact they are asked to present lectures or to direct the work of graduate students. Apparently members of research staffs receive supplementary salary for their teaching activities.

IV. General:

A. The Soviet Union is not ahead of the United States in the general area of the biological sciences but they are now initiating programs designed to win them a leading role.

They are producing additional minds needed. They are realistically recognizing the needs for basis and applied biological research. They are providing the essential funds, and are granting freedom in research for established scholars.

B. The Soviet Union provides about equal positions in the government, academy, and university hierarchy for basic and applied research.

This situation permits basic scientists to have much more influence in the U.S.S.R. than a similar group could exert in the United States. It provides one of the major explanations for the continued Soviet emphasis on the basic sciences.

C. The scientists in the research institutes and laboratories of Moscow and Leningrad have within recent years had an excessive number of visits from foreign scientists.

Their answers to many questions have thus become somewhat stereotyped. Too, there is undoubtedly some resentment of this pressure from foreign scientists. Certainly the large number of visitors to institutes and laboratories must be having a derogatory effect upon the research production of the Soviet scholars.

D. Most Soviet biologists desire to expand their communications with American biologists.

The language barrier is not a critical one in communicating with most Soviet biologists. However, if American biologists would accept letters written in Russian and respond to these in English, correspondence would thus be expedited.

Repeatedly scientists stressed the significance of meeting Americans "face to face." Often emphasis was placed on the point that correspondence was "cold" and that understanding could be achieved only through discussions between American and Soviet scientists.

E. There is a strong feeling among Soviet scientists that American scientists are at fault in the development of exchange of scholars and information between the two countries.

Repeatedly emphasis was placed upon the tendency for our State Department to restrict activities of visiting Soviet scientists. Too, emphasis was often placed upon the failure of American biologists to respond to correspondence.

F. *Few Soviet biologists are broadly informed as to the current status of research in their fields in the Soviet Union.*

The few that are broadly informed work at high administrative levels and are reluctant to discuss details. During the latter part of my trip biologists frequently asked for information about the work of biologists and biological science institutions at other points in my visits. The nature of the questions suggested that they were poorly informed.

G. *Soviet biologists are thoroughly cognizant of the fact that much of the research done in the Soviet Union is inferior.*

Although, generally speaking, Soviet biologists desire that American biologists know what they are doing, there was some tendency to suggest that much of the material being published in biology should not be translated.

H. *Soviet biologists fall into three distinctive groups.*

The older, senior biologists, many of whom occupy influential roles in the academies, rarely know English and are exceptionally conservative and apprehensive. A younger group of men (35 to 40 years of age) whose careers were made during the Stalin regime have substantially different educational backgrounds and viewpoints from the senior group. A younger group reacted very rapidly to some of the new freedoms provided after Stalin's death. This latter group is most responsive to discussions and most desirous of cooperating with Americans.

Each of these groups of scientists appear to have substantially different viewpoints about the United States. Their reactions to questions about Soviet science may be significantly different.

SECTION E. RECOMMENDATIONS

I. The following actions should be taken immediately:

A. *The AIBS should obtain funds to support the travel of twenty American biologists and science librarians in the U.S.S.R.*

These Americans should not travel as delegations or teams. They should travel alone as tourists and have as their major objectives the establishment of a basis for expanding communication with their Soviet colleagues. Particular emphasis should be placed on visits to the republic academies and branches of the Soviet Academy of Science. Each person should be thoroughly briefed by individuals having recent experience in the U.S.S.R.

B. *The AIBS should hold a conference of scientists and librarians having had recent experience in the U.S.S.R.*

The suggestions of travelers returning from the Soviet Union have not been effectively utilized. Through group analysis of conflicting impressions and thorough review of suggested actions, such a conference may provide recommendations of substantial value in improving our communication with Soviet science.

C. *The United States should implement the travel of Soviet scientists to the United States.*

We should abandon the closed area concept except where such restrictions are essential for security reasons.

D. *The AIBS should establish a center for collecting and dispensing information on Soviet biology.*

Our information on Soviet biology is scant. The American scientist cannot gain an adequate basis for planning travel in the U.S.S.R. or for establishing communication with his Soviet colleagues. Much information can be obtained by correspondence with Soviet scientists.

E. *American librarians should intensify their efforts to establish exchange agreements with Soviet institutions.*

Emphasis must be placed on communication with individual librarians or scientists. First steps to expand exchanges should include the sending of lists of American organizations interested in establishing exchange. Similar lists should be requested from the U.S.S.R.

F. *American abstracting services should explore the feasibility of cooperative action with the Institute of Scientific and Technical Information.*

G. *The agencies involved in translation of Soviet technical materials should take action to establish agreements with the responsible Soviet agencies.*

H. *The translating of Soviet materials should be closely coordinated and selections of material for translation made by panels of biologists expert in the fields concerned. The opinion of Soviet experts should be utilized.*

I. *The translating program should accept as its first responsibility the translation and distribution of the most useful bibliographic tools.*

J. *Action must be taken to place in the hands of biologists the routine announcements of new Soviet monographs in biology.*

K. *The editors of American journals should be encouraged to publish abstracts in Russian. AIBS should gain government support of an office to prepare such abstracts if the cooperation of journal editors can be gained.*

II. Consideration should be given to the following suggestions:

A. *The distribution of American scientific serials must be much increased in the U.S.S.R. and all of Asia.*

The Soviet technical literature is widely distributed at low costs (or is free) in much of the world. American scientific literature is not. The effect is to give scientists an impression of Soviet superiority in science.

B. *The United States must insure substantial increased support for the three major national libraries.*

This support should be provided to improve the procurement, classification, and shelving of Soviet and Chinese technical literature.

C. *Biological scientists must be assigned to review announcements of new Soviet publications and to recommend procurement policy in the national libraries.*

D. *The United States must recognize the significance of science in the cold war and demand that scientists accept active responsible roles.*

E. *The United States must find a procedure for providing Soviet scientists with a better understanding of the administrative structure of American science and education.*

F. *The AIBS must insure that every avenue is explored that may produce an increased flow of information to American biologists.*

The establishment of procurement and translation centers abroad is basic to the development of a science information system in the United States.

SOCIETY OF AMERICAN BACTERIOLGISTS,*
December 19, 1958.

DEAR SENATOR HUMPHREY: Your letter of November 7, 1958, to Dr. E. M. Foster, Secretary of the Society of American Bacteriologists, was forwarded to this office for reply.

As officers of the Society we are very glad to know that the Subcommittee on Reorganization and International Organizations has interested itself in the international aspects of medical research and services. The aims and purposes of the Society being what they are, it is only natural that we are more directly interested in medical research than in medical service as it usually is defined although there are certain microbiological aspects of medical service in which we definitely are interested. In your study of these subjects it is the earnest hope of the Society that due attention will be given to microbiological aspects of research and service.

As to the international aspects of Society affairs, there are several things which might be mentioned. First, the Society is the national representative of the United States in the International Association of Microbiological Societies. This Association is a body which constantly is exerting greater influence on the international aspects of microbiological research. While it often is thought of as an organization whose sole purpose is to sponsor International Congresses of Microbiology at stated periods, this actually is one of the less important activities of the Association. Within the organization are a number of Committees and Subcommittees made up of experts in various fields of microbiology and these are constantly active in promoting international cooperation in microbiological research and service. Members of the Society of American Bacteriologists are active members of all of these bodies and thus the Society is well represented in international cooperative research.

The Committee on Scientific Documentation of the Association correlates scientific publications, encourages international distribution of scientific journals and international publication of translations and abstracts. The chairman of this committee is the editor of our Society journal, The Journal of Bacteriology.

The International Association is a constituent member of the International Union of Biological Societies and through this body the Society of American Bacteriologists has a direct link with UNESCO, WHO, and the Pan American Sanitary Bureau. The World Health Organization, at the instigation of the International Association, has sponsored and supported National and International Reference Centers for the study of, and the dissemination of information on, various groups of microorganisms. Certain of these National and International Centers are located in the United States and are supervised by members of the Society. These centers are very active both in microbiological research and service to laboratories throughout the world.

In addition to the above-mentioned activities of the Society, we have agreed to cooperate with the International Cooperation Administration by accepting as members foreign scientists who are brought to the United States for extended periods of study. Through this arrangement our journals achieve a wider distribution throughout the world. Further, the Society has agreed to assist bacteriologists in other countries to organize their own professional associations.

As to recommendations to be made, it is our opinion that present programs should be strengthened in four areas:

1. International cooperation in microbiological research.
2. International reference centers for study of particular groups of infectious agents including diagnosis of referred specimens and distribution of standard diagnostic reagents and standard specimens of infectious agents.
3. International efforts in training of microbiologists.
4. Wider international distribution of scientific journals, abstracts of scientific papers, and translations of medical literature.

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*Subsequently entitled "American Society for Microbiology."

It is realized that the above-mentioned areas already are being covered, at least in part, by existing agencies such as NRC, ICA, and WHO and its subsidiary bodies. We feel that strengthening of these existing programs in any way possible would be of great benefit. From personal experience we realize that the need for consultation and training is an acute one and, although perhaps in lesser degree, applies to American scientists as well as to persons from other countries. There are a number of mechanisms whereby foreign scientists can obtain support for work and study in this country. On the contrary it is most difficult for a young microbiologist in this country to study abroad.

Finally, it is believed that a judicious relaxation of restrictions on visits to the United States by scientists of many countries would be advantageous. It is most difficult to hold international congresses in this country due to existing restrictions and visa difficulties. If these could be relaxed without posing a real threat to national security it would be much easier to hold scientific meetings of truly international character in this country.

Very sincerely,

PHILIP R. EDWARDS, *President-Elect.*

THE ROYAL SOCIETY,
London, October 29, 1959.

DEAR SENATOR: You wrote to me on 13 April inviting me to consult my colleagues in the Royal Society on action which the U.S. Government could take to strengthen international cooperation among researchers against disease and to strengthen cooperation, in particular, among medical academies of the various nations.

I referred your letter and the documents which you enclose to the Medical Sciences Research Committee of the Royal Society and my reply is based on the recommendations of this Committee.

Experience has shown that the strategy of medical research is too complex to yield to an *ad hoc* approach rather than a broadly based programme of fundamental research. Any categorisation of research is to be deplored in this and other fields as not being the shortest route to the solution of practical problems; advances in the treatment of disease are more likely to come from advances in basic sciences. It would be our hope that funds should be made available in the broadest sense, to be deployed in those directions in which the greatest opportunities may occur.

The nature and experience of the existing international scientific unions federated with the International Council of Scientific Unions, such as the International Unions of Biochemistry, Biological Sciences, Pure and Applied Chemistry, Physiological Sciences, render them peculiarly well fitted to the organization of international cooperation in research in those basic sciences which underlie medicine.

Within individual nations it is, in our view, of the utmost importance that the choice as to the scientific projects that should be most strongly supported should be taken by an independent and central agency at the highest scientific level, such as the national academy of sciences; in the United Kingdom this is the Royal Society. It is equally important that work should proceed through existing organisations rather than by the creation of new institutes, and the best way of strengthening cooperation among medical academies of the various nations is by strengthening the respective national research potentials.

In the case of the United Kingdom it seems that this could best be done in the following ways:

(a) by the provision of salary grants on a long term basis, offering careers in research rather than short term *ad hoc* grants. The Foulerton and Yarrow Professorships and latterly the Royal Society Research Professorship have been awarded by the Royal Society to scientists of outstanding ability, to enable them to conduct independent research at universities or other institutions approved by the Council. Our experience has shown that the appointment of half a dozen senior research workers to such posts with permanency of tenure and with adequate provision for technical assistants, equipment and laboratory facilities would have a stimulating effect in the general upgrading of the level of medical achievement and would increase the total turnover of basic research. It is felt that this proposal might have a wider application than to the United Kingdom alone where the experience of the Royal Society has shown the value of such

a scheme being handled by an independent body of high scientific standing which appoints the professor and administers the funds.

(b) by the provision of Visiting Professorships, to enable research workers of exceptional distinction to spend at least six months in a laboratory in another country. The Royal Society in the United Kingdom has decided to use its very limited funds to introduce such a scheme at the rate of one visiting professorship each year to be chosen from the whole subject field of science: although this is the first year of operation it is already clear that such a scheme could be extended with great benefit.

(c) by the provision of items of expensive special apparatus, such as electron microscopes, for which appropriate sources of funds are sometimes very difficult to find.

(d) by the encouragement of small international meetings of carefully selected research workers on the lines of the symposia organised by the CIBA Foundation, and particularly by the provision, through the medium of the national academies, of travelling expenses to enable scientists to attend working symposia.

With regard to international medical assistance programmes among developing countries, it is our strongly held conviction that the first essential is the improvement of university facilities in such regions. The creation of separate research institutes is only likely to be fruitful in conjunction with the existence of flourishing universities so that the first condition should be the strengthening of established universities and institutions in manpower, funds and facilities for research.

This development should be a first step towards the interchange for a reasonable period of recognised scientific workers, with adequate provision for the conduct of research in the developing countries and with the assurance of security upon return to their own country.

In conclusion I would like to emphasize the view of the Council of the Royal Society that it is of the highest importance that any programme undertaken to help medical research and strengthen international cooperation should be planned on a long term basis and capital funds provided to ensure this.

Yours sincerely,

C. N. HINSHELWOOD, *President R.S.*

MANY DOMESTIC GROUPS NOT NOW INCLUDED

Senator HUMPHREY. We will not at this time attempt to report on additional national—as contrasted with international—organizations in such fields as biology, physics and chemistry.

The sheer number of these scientific organizations in the various nations and the complexity of their activity prevents our attempting to be more inclusive at the present time.

Suffice it to say for the moment that many additional national organizations in the physical sciences—American, British, French and other groups—have confirmed to the subcommittee their deep interest in increased international collaboration with medical science.

If we were to attempt a comprehensive enumeration at this time of our own U.S. groups, we would include helpful messages from such important groups as the American Association for the Advancement of Science, the American Institute of Physics, the American Chemical Society, the Federation of Societies of Experimental Biology and many other domestic organizations.

E. ACTIVITIES OF NEW YORK ACADEMY OF SCIENCES

One of the many prominent scientific organizations within the United States is the New York Academy of Sciences.

Our project director visited with the academy's executive director and staff and asked at my request if certain data might be prepared on the important international contributions which the academy makes in the biomedical field.

There follows a report which was kindly prepared thereafter by Eunice Miner, the executive director.

THE NEW YORK ACADEMY OF SCIENCES

BACKGROUND

The New York Academy of Sciences is a nonprofit membership association with about 15,000 members distributed throughout the world. It has been a self-supporting organization, solely devoted to the advancement of science, since 1817.

During this 142-year period the academy has kept abreast of the latest scientific progress in many fields and published reports which have been given world-wide distribution. At present, with years of experience behind it and its methods polished by practice, it continues to compile, evaluate, publish, and distribute important scientific information at an accelerating pace.

The academy's organization includes four sections and ten divisions, each representing a field of science in which the academy has a major interest. Six of these, Section of Biological and Medical Sciences; Division of Anthropology; Division of Mycology; Division of Psychology; Section of Chemical Sciences; Section of Physical Sciences, are definitely related to the medical and biological sciences and the preservation of human health.

Each of the sections and divisions hold regular monthly meetings during each academic year, from October to May, inclusive. At these meetings, eminent scientists engaged in important research, whether members of the academy or not, report and discuss their latest work and present papers for publication.

In addition to these regular meetings, 20 to 30 large conferences per year are held. Attendance averages about 350, but some conferences have had almost double that number. Almost all these are international in character and 160 of the 191 held since 1938 have dealt with the life sciences.

The proceedings at these conferences are published as monographs in a series known as "The Annals of The New York Academy of Sciences."

Conducting conferences and publishing and distributing the resulting monographs is expensive. The total cost from 1939 through 1958 has been $2,225,763.74. Although $606,268.02 in grants-in-aid, primarily for traveling expenses of speakers, were received during this same period, the academy paid the balance of $1,619,495.72 from its own funds.

The cost of conducting the academy's overall program, of course, is much greater than the conference expenses but it is carried on a virtually self-supporting basis. Only 3.66% of the academy's total income since 1939 was received from outside sources. This includes the grants-in-aid mentioned above.

The facilities of the academy's building are made available to other scientific organizations. Approximately 400 meetings are held annually by more than 58 philanthropic organizations. Luncheons and dinners are served, if desired, as nearly as possible on a cost basis and whenever contributed; fees for meeting space, use of equipment, office space and administrative services are held to a minimum.

INTERNATIONAL ACTIVITIES

The academy's membership now numbers nearly 15,000. Of these, more than 1,000 are residents of foreign countries. Some of the larger concentrations of foreign members were located as follows in May, 1959.

Canada	383	Switzerland	44
France	86	Brazil	29
Sweden	70	Israel	26
Italy	59	Japan	21
England	54	Argentina	21
Germany	53		

Smaller numbers of members are located in 55 other foreign countries in almost all parts of the world including India, Thailand, Australia, Malaya, Vietnam, China, U.S.S.R., Turkey, Saudi Arabia, Lebanon, Belgian Congo, Tanganyika, and Kenya.

These members have the same membership privileges as domestic members. This includes the automatic receipt of the "Transactions of The New York Academy of Sciences" which contain the papers presented before the sections and divisions of the academy. All members may request any of the current issues or all of "The Annals of The New York Academy of Sciences" which are the monographs resulting from the conferences. These publications are sent to them free of charge.

All members may purchase, at substantially reduced prices, any of the five special publications which have been published by the academy. Three of these are medical and all are outstanding reference works.

Although exact figures are not available, it can be estimated with a considerable degree of accuracy that during the academy's fiscal year beginning on 1 November 1957 and ending on 31 October 1958, more than 41,000 of the academy's publications were sent out to foreign countries. This includes 180 which were sent to foreign libraries, scientific societies, book publishers, pharmaceutical companies, universities, and laboratories gratis or on an exchange basis.

Foreign demand for these publications is increasing and it is expected that foreign distribution for the fiscal year ending on 31 October 1959 will not be less than 50,000 copies.

International participation in conferences is substantial. Of the 160 conferences dealing with the life sciences held since 1938, a total of 3,512 papers have been presented and published. Of these, 401, or 11.4%, were the work of foreign authors. The numbers of papers presented by scientists from countries which have participated most actively are listed below:

England	93	Japan	15
Canada	65	Australia and New Zealand	14
Germany	35	Switzerland	13
France	25		

It is also interesting to note that 8 African countries have contributed a total of 17 papers and that a total of 44 countries have been represented.

No complete records of members' travel are kept, but it is known that the academy's members make many trips abroad. It is estimated that these trips exceed 1,000 per year. The personal contacts established with foreign scientists and institutions have been of great benefit in terms of facilitating future communication with them.

EXPERIENCE WITH GOVERNMENTS

Since September 1955 a net total of $89,022.40 has been received from the National Institutes of Health as grants-in-aid to help pay the expenses of six conferences on biological and medical subjects.

The Governments of France and Israel have been most cooperative. When nationals of these countries have participated in conferences, their governments have often paid for transportation while the academy has covered other personal expenses.

Although citizens of the USSR have been issued invitations to participate in the academy's conferences, none has attended since World War II. Two, however, have submitted papers for publication.

ADVANTAGES OF SPONSORSHIP OF CONFERENCES BY THE NEW YORK ACADEMY OF SCIENCES

The academy is a completely independent organization. It has no obligations, is not subject to any partisan pressures, nor does it impose any obligations on conference participants except the requirement to maintain scientific objectivity. Also, the academy is not a potential employer of scientists. Speakers and authors have learned that editing is done only for brevity and clarity and that the academy provides a truly independent forum.

Because of the many scientific disciplines represented among its members, the academy is able to evaluate the subject matter for conferences against the broadest possible background. This assures complete treatment of a subject without bias or significant omissions.

RECOMMENDATIONS

1. That great care be taken to prevent dampening initiative and discouraging self-sufficiency on the part of scientific organizations. Money should be provided only when it is actually needed for significant work.
2. That teams of competent scientists conduct a systematic survey of foreign laboratories for two purposes: (a) to learn about and report back to the United States on any new work, not known here; and (b) to report and make recommendations on furnishing foreign scientists with equipment and facilities needed to improve or accelerate important research.
3. That an exchange program be greatly accelerated in order to send more American scientists abroad and bring more foreign scientists here to work in each other's laboratories or to participate in scientific forums.
4. That attention be given to hospitality for visiting foreign scientists. This should include furnishing them with information, seeing that they meet Americans in their own field, and generally letting them know that they are welcome in this country.

9. Report of a Leading American Philanthropy—The Rockefeller Foundation

Senator Humphrey. As noted elsewhere within this volume, the subcommittee has compiled valuable reference information on the tremendous contributions to international medical research and to health assistance on the part of American private organizations—foundations, voluntary health groups, pharmaceutical companies, religious and nonsectarian aid groups, and others. Limitations of space prevent us from reproducing more than one such report herein.

ONE HUNDRED AND TWENTY MILLION DOLLARS GIVEN OVERSEAS

At the very start of the subcommittee's study one of the very first such organizations which we contacted was the one which is virtually universally regarded as perhaps the outstanding model in international philanthropy—the famed Rockefeller Foundation. On October 8, 1958, its distinguished president, Dean Rusk (now Secretary of State of our Nation) responded to my inquiry with a valuable report on the work of the foundation.

The report shows, for example, that the foundation had spent through 1957 almost $120 million outside the United States in medical education, public health and biological and medical research.

Part III would not be complete without reference to the work of the Rockefeller Foundation.

Wherever the subcommittee has gone to invite reactions in person or by letter or phone on the subject of international health, discussion has inevitably turned to the exemplary work of the Rockefeller Foundation.

American and foreign grantees of the foundation have figured significantly in the medical history of our times.

I, for one, cannot express too high commendation of the contribution which the foundation has made to the health of mankind.

It is appropriate that virtually the very first formal response received by the subcommittee came from so preeminent an organization and that it is the first report reprinted by us as a symbol of American philanthropy at work.

U.S. GOVERNMENT SHOULD ENCOURAGE FOUNDATIONS

I cannot stress too strongly that I believe that Government agencies engaged in international health programs, should, among other tasks, weigh their actions carefully so that they evaluate relationships with the work of private foundations. Everything which can be done to encourage the foundations' optimum role should, in my judgment, be done.

The Rockefeller Foundation's report follows. It is entirely a factual statement; no opinions as such, are expressed by the foundation, since, as Mr. Rusk had earlier indicated to me, the foundation preferred to let the facts speak for themselves and not to attempt, as an institution, to express formal evaluation of what the U.S. Government might do.

THE ROCKEFELLER FOUNDATION,
New York, N.Y., October 8, 1958.

DEAR HUBERT: * * *

The Rockefeller Foundation has expended almost $120 million outside the United States in medical education, public health, and biological and medical research. Although many of these actual expenditures occurred in past years, many of the funds are still at work in the form of endowment, capital plant, equipment, and, most important of all, trained personnel. In order to give you a somewhat more current impression, we are appending a memorandum and a series of exhibits which point particularly to our activities over the past 5 years. A great many of these grants represent our present interests, since they were made for a period of years.

Two significant developments in the Rockefeller Foundation's approach to medical and health problems might be mentioned. Historically, we engaged in many demonstration campaigns against specific diseases such as yellow fever, malaria, hookworm, yaws, etc. These demonstrations helped to call the attention of public authorities to the possibilities of improved techniques in public health operations. As national governments and official international organizations have largely taken over such public health operations, the Rockefeller Foundation largely has withdrawn from such campaigns to concentrate its efforts elsewhere.

Second, the foundation has been drawn more and more toward basic research and to the advanced training of competent and promising personnel. The solution of major health problems usually turns upon increased knowledge and competent people. We have come to believe, therefore, that our limited private resources could be used to the greatest strategic advantage at the frontiers of medical knowledge and in an active and selective postgraduate fellowship program. Of the total of approximately 7,839 fellowships awarded through 1957, about 4,412 have been awarded in the broad fields of medical education, public health, and biological and medical research, and almost all of these have been awarded outside the United States. We have drawn special satisfaction from this body of professional competence to which we were able to make modest contributions at crucial periods in medical and scientific careers.

We are sending under separate cover several books: (1) Raymond B. Fosdick's "The Story of the Rockefeller Foundation"; (2) "Yellow Fever" edited by George Strode; (3) "The Sardinian Project—An Experiment in the Eradication of an Indigenous Malarious Visitor" by John A. Logan; and (4) Rockefeller Foundation Directories of Fellowship and Scholarship Awards—three volumes. These, together with the materials attached herewith, will give a good general view of the nature of our work.

Please let your committee staff know that we are at their disposal if they wish further details or would like to discuss with us any aspect about our medical activities abroad.

* * * * * * *

Sincerely yours,

DEAN RUSK, *President.*

Enclosures:

Exhibit A: Summary of expenditures for medical education and public health and for biological and medical research, classified geographically, 1913 through 1957.

Exhibit B: Description of current oversea program in medical education and public health.

Exhibit C: Description of current operating program in virus research (excerpt from 1957 annual report).[1]

Exhibit D: Fellowships and scholarships in medical education and public health and in biological and medical research.[1]

Exhibit E; Parts I and II: List of appropriations, April 1952, to July 1, 1958, in medical education, medical research, and public health.

EXHIBIT A

THE ROCKEFELLER FOUNDATION

Summary of expenditures for medical education and public health and for biological and medical research, classified geographically, 1913 through 1957[1]

United States	$139,697,038.39
North America (other than United States)	12,965,458.08
Central America	1,391,443.79
South America	15,903,184.13
West Indies	3,396,854.15
Europe	44,660,051.46
Africa	2,093,936.02
Near East	3,922,846.70
Far East	32,573,568.37
Australasia	1,229,705.54
International agencies	1,905,813.26
Total	259,739,899.89

[1] The figures shown are the sum of expenditures 1913–56, plus appropriations in 1957. This was done because complete reports on expenditures in 1957 have not yet been received from all grantees.

EXHIBIT B

THE ROCKEFELLER FOUNDATION

DESCRIPTION OF CURRENT OVERSEA PROGRAM IN MEDICAL EDUCATION AND PUBLIC HEALTH

One of the foundation's current programs is focused on medical education and public health. Like all foundation programs, it has oversea and domestic phases, and these, in keeping with the differences in conditions, are distinct in their aims. The following is an account of the oversea portion of the program.

In many countries of the world, medical education presents problems of enormous magnitude which no foreign agency can pretend to solve. The huge deficits in medical manpower must be met by each country from its own educational resources. Temporary outside help, however, may substantially accelerate the training of highly competent teachers, who will in turn comprise the faculties of medical schools producing the large number of physicians needed. Accordingly, in various countries of Latin America and Asia—but particularly in Brazil, Chile, Colombia, and India—assistance is being given to certain institutions which have undertaken to produce a greater number of qualified teachers in the preclinical and clinical sciences. Direct assistance in the form

[1] Not reprinted within pt. III.

of grants has been augmented by fellowship awards to young and promising faculty members for study in other countries, and by the establishment of scholarships which make possible a more efficient use of the educational resources within the various countries.

Area representation is an important part of the foundation's program in medical education and public health. Resident representatives who are intimately acquainted with the problems of an area, and who can have frequent personal contacts with educational leaders and officials, contribute significantly to the effective management of the foundation's efforts to encourage the development of better teaching and health care standards. In addition, the representative is available as an informal adviser to the national authorities on many problems within the field of his personal competence. In some instances it appears that this intangible aid exceeds in ultimate value actual financial assistance through grants.

Currently the foundation maintains regional offices in Rio de Janeiro, Santiago, New Delhi, and Baghdad. Officers and staff assigned to these units total five (including the resident in Iraq, whose present status is indefinite). One additional officer is serving as scientific adviser for the new All-India Institute of Medical Sciences in New Delhi, a second is acting as adviser in malaria to the WHO in Geneva, and a member of the field staff is on special assignment in Puerto Rico, where he is cooperating in the development of a regionalized medical care program. For the support of its field services during 1958, the Rockefeller Foundation appropriated $344,725. Since its establishment in 1913, the foundation has spent approximately $116,300,000 for aid to medical education and public health abroad.

In 1951 the Rockefeller Foundation reorganized its programs. Its international health division and its division of medical sciences were terminated, and a new program in medical education and public health was established. In 1955, as a result of further organizational changes, research in the biological sciences and in the medical sciences were combined in what is now known as the program in biological and medical research. The new programs differ in points of emphasis from earlier foundation programs in these fields but in general they have a tradition dating back to the year of the foundation's establishment.

The foundation has opened its offices in New Delhi, India, and in Baghdad, Iraq, during the 7 years since the reorganization of program. It has also supported, through part or all of the same period, field units in 14 other countries, and maintained 10 staff members abroad and 2 in the United States on special missions. The latter have included a sanitary engineer assigned to the Malaria Institute of India to assist in malaria teaching and control programs; a nurse assigned to the National School of Nursing, Lima, Peru, to serve as director; a doctor assigned to South America to survey medical education there; and others with similarly specialized functions.

Also in the past 7 years the foundation has closed 11 field offices and ceased to maintain representatives in medical education and public health in its Paris and London offices. In most instances the closures reflected the termination of activities of the former international health division. More extensively than the foundation does now, the international health division used field staff for the purpose of cooperating with governments abroad in public health projects. By 1951 the foundation considered the need for this type of activity diminished, since funds for public health were becoming available increasingly from other sources, and since more and more other agencies were becoming active in the promotion of public health services.

A summary of the foundation's field staff abroad and of some of the special activities of the field offices in the past 7 years is appended.

FIELD OFFICES ABROAD AND OVERSEA STAFF ASSIGNMENTS IN MEDICAL EDUCATION AND PUBLIC HEALTH, 1952 THROUGH 1957

Mexico:

Mexico, D. F., field office to 1955. Staff, one. Malaria studies in cooperation with the government of Mexico to December 31, 1952.

Mr. E. H. Magoon, MEPH engineer assigned to the foundation's Mexican agricultural program, 1955–57.

Caribbean region:

Miami, Fla., field office to 1954. Staff, two in 1952, one in 1953–54.

Ciudad Trujillo, Dominican Republic, field office to 1954. Staff, one.

Dr. John B. Grant, consultant to the government of Puerto Rico in survey of health and medical services and in regionalized medical care program, 1955– .

South America:

Rio de Janeiro, Brazil, field office. Staff, one for 1954–56, two since 1957.

La Paz, Bolivia, field office to 1952. Staff, one.

Bogotá, Colombia, field office to 1952. Staff, one.

Santiago, Chile, field office. Staff, one.

Lima, Peru, field office to 1953. Staff, one.

Miss E. M. Hirst, R.N., director of the National School of Nursing, Lima, Peru, to 1957.

Dr. Johannes H. Bauer, assigned to South America to survey medical education there, 1953–54.

Europe:

London, England, field office. Staff, one from 1952 to 1954.

Paris, France, field office. Staff, three in 1952, four in 1953, two in 1954.

Rome, Italy, field office to 1952. Staff, one.

Dr. Paul F. Russell, special adviser in malaria to WHO, Geneva, 1954– .

Africa and the Near East:

Cairo, Egypt, field office to 1954. Staff, one.

Baghdad, Iraq, field office from 1957. Dr. Guy S. Hayes, consultant to the Government of Iraq in medical education and public health.

Far East:

Bangalore, India, field office to 1954. Staff, four in 1952, three in 1953–54. The foundation cooperated with the Mysore State Health Department in an anemia studies project through December 1953 and in a malaria studies and control demonstration project to March 1954.

New Delhi, India, field office from 1954. Staff, varying from one to three.

Tokyo, Japan, field office to 1955. Dr. Oliver R. McCoy, assigned to the Institute of Public Health, Tokyo, to assist in its further development.

Miss Virginia Ohlson, R.N., nursing consultant, Japan, Taiwan, and the Philippines, stationed in Japan, to 1954.

Miss Lillian A. Johnson, R.N., assigned to help organize the Trivandrum, Tranvancore, India, Hospital Nursing School, to 1955.

Mr. Fred W. Knipe, sanitary engineer assigned to the Malaria Institute of India, Delhi, to assist in malaria teaching and control programs in India, to 1956.

EXHIBIT E—PART I

ROCKEFELLER FOUNDATION APPROPRIATIONS

5-year period, Apr. 2, 1952, to Apr. 3, 1957, exclusive of grants for administration, fellowships, and grants in aid [1]

NOTE.—This list has been excerpted from a report, prepared for other purposes, on foundation grants in all fields over a 5-year period. The grants are shown as in the original trustee action and do not include later amendments or extensions. Budgets to cover field service expenses for the maintenance of staff and field offices in medical education and public health are not included.

Since the report from which this is taken extended only to Apr. 3, 1957, it has been brought up to July 1, 1958, by the listing shown as pt. II of this exhibit. Since pt. II was prepared for the purposes of the present inquiry, it does not include appropriations to institutions in the United States unless they were for programs related to medical and public health work abroad.

Key:
MPH: Former division of medicine and public health.
MEPH: Current program in medical education and public health.
BMR: Current program in biological and medical research.
NSA: Former division of natural sciences and agriculture.

[Excerpt]

BIOLOGICAL AND PSYCHOLOGICAL STUDIES OF BEHAVIOR (CONTINUED)

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
MPH	United States	Columbia University, New York, N.Y.	$6,000	July 1, 1952, to June 30, 1953	Work in brain chemistry	Heinrich Waelsch, New York State Psychiatric Institution, director.
MPH	do	Duke University, Durham, N.C.	15,000	Outright, June 19, 1953	Research in parapsychology	Joseph P. Rhine.
MPH	do	Harvard University, Cambridge, Mass.	30,000	Sept. 1, 1952, to Aug. 31, 1954.	Investigation of personality	Henry A. Murray, director.
MPH	do	McLean Hospital (Massachusetts General Hospital), Waverly, Mass.	100,000	Outright, May 22, 1952	Research in brain chemistry	Jordi Folch-Pi, director of research.
MPH	do	Princeton University, Princeton, N.J.	75,000	Outright, Apr. 1, 1953	Research in perception	Adelbert Ames.
MPH	do	Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine.	50,000	Mar. 1, 1954, to Feb. 28, 1955	Genetic factors of intelligence and emotional variation in mammals.	C. C. Little, director of laboratory.
MPH	do	do	50,000	Mar. 1, 1955, to Feb. 28, 1956	do	Do.
BMR	do	do	50,000	Mar. 1, 1956, to Feb. 28, 1957	do	Do.
MPH	do	University of California, Berkeley.	50,000	July 1, 1953, to June 30, 1955	Institute for Personality Assessment and Research.	Donald W. MacKinnon.
BMR	do	Yerkes Laboratories of Primate Biology, Orange Park, Fla.	50,000	July 1, 1955, to June 30, 1960	General budget	Henry W. Nissen, associate director.

General	Australia	Commonwealth Scientific and Industrial Research Organization, Canberra.	$250,000	Jan. 1, 1956, to Dec. 31, 1958	Construction of radio telescope and associated equipment.	E. G. Bowen, Chief, Division of Radiophysics.
BMR, Agricultural.	Brazil	University of Brazil, Rio de Janeiro.	2,400	June 24, 1955, to Dec. 31, 1956.	Teaching and research programs in geography.	Hilgard O'Reilly Sternberg.
MEPH	Colombia	University of Antioquia, Medellin.	58,000	July 1, 1956, to June 30, 1959	Development of a school of library science.	
BMR	Denmark	University of Copenhagen, Copenhagen.	260,000	May 1, 1956, to April 30, 1959	Basic research equipment for Institutes of Biology and of Experimental Medicine and Surgery.	
NSA	France	Centre National de la Recherche Scientifique, Paris.	40,000	July 1, 1952, to June 30, 1955	Attendance of non-French scientists at series of conferences.	
NSA	do	Congress of Cultural Freedom, Paris.	12,000	Feb. 1, 1955, to Jan. 31, 1957	Program of Science and Freedom Committee.	Denis de Rougemont, President; Nicolas Nabokov, Secretary General.
General	Japan	Kyoto University, Kyoto	15,000	July 1, 1957, to June 30, 1962	Research Institute for Fundamental Physics, for exchange of scientists with other countries.	Hideki Yukawa.
BMR	Mexico	National University of Mexico, Mexico, D.F.	176,000	Sept. 27, 1956, to Dec. 31, 1959.	Research expenses in certain science institutes.	
NSA	Switzerland	University of Bern, Bern	25,000	July 1, 1954, to June 30, 1958	Theodor Kocher Institute, for equipment and assistance to foreign guests.	
BMR	United States	Cornell University, Ithaca, N.Y.	50,000	Sept. 1, 1956, to Aug. 31, 1961	Cost of statistical research group in department of public health and preventive medicine of medical college.	Irwin Bross, director.
NSA	do	Gordon Research Conferences of American Association for the Advancement of Science, Washington, D.C.	30,000	Jan. 1, 1955, to Dec. 31, 1957	Expenses of foreign scientists at selected conferences.	W. George Parks, director.
MEPH	do	Massachusetts Institute of Technology, Cambridge.	250,000	Apr. 4, 1956, to Dec. 31, 1957	To provide a biological and medical facility for the institute's nuclear reactor.	
General	do	National Academy of Sciences, Washington, D.C.	15,000	Oct. 31, 1955, to Dec. 31, 1956.	Plans for study of effects of atomic radiation on living organisms.	Detlev Bronk, President.
BMR	do	do	250,000	Jan. 27, 1956, to Dec. 31, 1957	Study of effects of atomic radiation on living organisms.	Do.
NSA	do	National Research Council, Washington, D.C.	50,000	July 1, 1954, to June 30, 1957	Support of activities of Committee on Educational Policies of Division of Biology and Agriculture.	
BMR	do	University of Chicago, Chicago, Ill.	50,000	Oct. 1, 1956, to Sept. 30, 1961	Advanced training in applied statistics.	

See footnote at end of table, p. 1105.

ROCKEFELLER FOUNDATION APPROPRIATIONS—Continued

5-year period, Apr. 2, 1952, to Apr. 3, 1957, exclusive of grants for administration, fellowships, and grants in aid [1]—Continued

MEDICAL RESEARCH

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
MPH	France	University of Aix-Marseilles, Marseilles.	$30,000	Feb. 1, 1954, to Jan. 30, 1956	Equipment for research in neurophysiology.	Georges Morin and Henri Gastaut.
MPH	Great Britain	University of London, London, England.	23,400	Oct. 1, 1953, to Sept. 30, 1956	Studies of psychological effects of frontal lobe operation.	H. J. Eysenck, Institute of Psychiatry.
MEPH, BMR.	do	University of Oxford, Oxford, England.	156,000	June 24, 1955, to June 30, 1957	Research laboratory facilities and equipment for Regius professor of medicine in school of medicine.	G. W. Pickering, Regius professor.
BMR	India	Calcutta School of Tropical Medicine, Calcutta.	25,000	Mar. 1, 1957, to Feb. 28, 1959	Purchase of research equipment	R. N. Chaudhuri.
MPH	do	Indian Cancer Research Center, Bombay.	23,800	Jan. 1, 1953, to Dec. 31, 1955	Operation of laboratory for studies in human variations.	V. R. Khanolkar, Director.
BMR	do	Indian Council of Medical Research, New Delhi.	88,200	Nov. 1, 1956, to Oct. 31, 1959	Neurological research program at the Indian Cancer Research Center in Bombay.	
MPH	do	Sawai Man Singh Medical College, Jaipur.	22,345	June 19, 1953, to Dec. 31, 1954	Research equipment and facilities for breeding and maintenance of experimental animals.	
MPH	Japan	Keio University, Tokyo	15,000	June 1, 1952, to May 31, 1953	Equipment for cardiopulmonary research laboratory.	Hiroshi Sasamoto, director.
MPH	Norway	University of Oslo, Oslo	31,950	Feb. 1, 1954, to Jan. 31, 1958	Physiological research	Carl Semb.
MPH	United States	Indiana University, Indianapolis.	56,500	July 1, 1952 to June 30, 1955	Research in psychotherapy	Herbert S. Gaskill, Chairman, Department of psychiatry.
MPH	do	Massachusetts General Hospital, Boston.	10,000	Sept. 1, 1952 to Aug. 31, 1955	Research in endocrinology and metabolism.	Fuller Albright, director.
MPH	do	Washington University, St. Louis, Mo.	400,000	Outright, Nov. 30 to Dec. 1, 1954.	Program of research and training in disorders of the skin in school of medicine.	

INVESTIGATION AND CONTROL OF SPECIFIC DISEASES

BMR	Australia	Walter and Eliza Hall Institute of Medical Research, Parkville.	$60,000	May 1, 1956 to Apr. 30, 1964	Research program	MacFarlane Burnet.
MPH	France	Pasteur Institute, Paris	20,000	July 1, 1952 to June 30, 1954	Equipment for virus research division.	Pierre Lepine, director.
			21,000	June 1, 1955 to May 31, 1957	Equipment in department of mi-	G. W. A. Dick, director.

BMR	Ireland, Northern	Queen's University of Belfast, Belfast.	21,000	June 1, 1955 to May 31, 1957	Equipment in department of microbiology.	G. W. A. Dick, director.
BMR	Israel	Israel Foundations Trustees, Jerusalem.	62,000	May 1, 1957 to Apr. 30, 1959	Research in virus diseases	Natan Goldblum.
BMR	Malaya	University of Malaya, Singapore.	73,800	May 25, 1956 to Aug. 31, 1961	do	James H. Hale.
BMR	United States	Cornell University, Ithaca, N.Y.	48,000	Mar. 1, 1956 to Feb. 28, 1958	Renovating and equipping laboratory for virus research of department of public health and preventive medicine.	Edwin D. Kilbourne, director.
MPH	do	Department of Public Health, Tennessee, Nashville.	18,960	Jan. 1, 1953 to Dec. 31, 1953	Tuberculosis study in Williamson County.	
MPH	do	do	21,000	Outright, Oct. 23, 1953	do	
BMR	do	Johns Hopkins University, Baltimore, Md.	150,090	July 1, 1955 to June 30, 1960	School of hygiene and public health, investigation of virus diseases.	Winston H. Price, director of division of interepidemic ecology.
MEDICAL CARE						
MPH	Canada	University of Toronto, Toronto, Ontario.	$10,500	July 1, 1952, to June 30, 1953	Teaching and research in medical care.	
MPH	France	Association d'Hygiene Sociale de L'Aisne, Soissons (Aisne).	133,000	July 1, 1953, to June 30, 1958	Support of Soissons Centre de la Santé Publique.	
MPH	Puerto Rico	Department of Health, Government of Puerto Rico, San Juan.	63,509	July 1, 1954, to Dec. 31, 1955	Survey of medical and public health facilities in the Bayamón region.	Juan A. Pons, director.
MEPH	do	do	155,950	Mar. 1, 1956, to Feb. 28, 1958	Development of techniques and methods for regionalization of medical and public health facilities in Bayamón region.	
MPH	United States	American Psychiatric Association, New York, N.Y.	140,000	June 1, 1953, to May 31, 1955	Study of mental hospital design	
MPH	do	American Public Health Association, New York, N.Y.	115,000	Apr. 2, 1952, to Dec. 31, 1956	Support of Subcommittee on Medical Care.	
MPH	do	Commission on Chronic Illness, Baltimore, Md.	18,865	June 19, 1953, to Dec. 31, 1954	Preparation for a conference on care of long-term patient.	Dean Roberts, director.
MPH	do	Health Insurance Plan of Greater New York, New York, N.Y.	20,500	Feb. 26, 1954, to Dec. 31, 1955	Study of the recorded experience of the plan.	
MPH	do	University of North Carolina, Chapel Hill.	45,000	May 1, 1953, to Apr. 30, 1955	Study of medical practice by the Division of Health Affairs.	Osler L. Peterson, director.
MPH	do	do	15,000	Nov. 30–Dec. 1, 1954, to Dec. 31, 1955.	do	Do.
MEPH	do	do	80,600	Apr. 6, 1955, to Dec. 31, 1957	do	Henry T. Clark, Jr., administrator.

See footnotes at end of table, p. 1105.

ROCKEFELLER FOUNDATION APPROPRIATIONS—Continued

5-year period, Apr. 2, 1952, to Apr. 3, 1957, exclusive of grants for administration, fellowships, and grants in aid[1]—Continued

DEVELOPMENT OF HEALTH SCIENCES

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
MEPH	Brazil	Brazilian Nursing Association, Rio de Janeiro.	$45,000	Jan. 29, 1957, to June 30, 1958.	Completion of appraisal of status of nursing in Brazil.	
MPH	Chile	National Department of Sanitary Engineering, Santiago.	30,000	Jan. 1, 1953, to Dec. 31, 1953.	Equipment	
MPH	France	Association pour la Santé Mentale de l'Enfance, Paris.	100,000	Jan. 1, 1953, to Dec. 31, 1957.	Development of child mental health.	Jenny Roudinesco, director.
MPH	Great Britain	University of London, London School of Hygiene and Tropical Medicine, London, England.	61,920	Jan. 1, 1953, to Dec. 31, 1955.	Research and experimentation in public health practice.	James M. Mackintosh, supervisor.
MPH	United States	Department of Public Health, Calif., Sacramento.	150,000	Oct. 29, 1954, to June 30, 1959.	Support of chronic disease epidemiology center.	Lester Breslow, director.
MPH	do	Harvard University, Cambridge, Mass.	58,450	Dec. 1, 1953, to Dec. 31, 1955.	Field study of population in India.	John E. Gordon.
MPH	do	National League for Nursing, Inc., New York, N.Y.	63,771	Sept. 24, 1954, to June 30, 1957.	Program of National Nursing Accrediting Service.	

PROFESSIONAL EDUCATION IN MEDICINE, PUBLIC HEALTH AND NURSING

MPH	Austria	University of Vienna, Vienna	$17,200	Nov. 1, 1952, to Oct. 31, 1955.	Local fellowships for training in child psychiatry.	Hans Hoff, director.
MPH	Brazil	Araraquara Rural Health Training Center, São Paulo.	10,000	Jan. 1, 1954, to Dec. 31, 1955.	General support	
MEPH	do	Campanha Nacional de Aperfeicoamento de Pessoal de Nivel Superior (CAPES), Rio de Janeiro.	124,000	Jan. 1, 1956, to Dec. 31, 1957.	Training of teachers for medical schools.	Anisio Teixeira, director.
MEPH	do	Paulista School of Medicine, São Paulo.	105,000	Apr. 4, 1956, to June 30, 1958.	General development	
MEPH	do	Santa Casa de Misericordia, Rio de Janeiro.	57,120	Oct. 1, 1955, to Sept. 30, 1958.	Graduate training of physicians through internships and residencies in Central Hospital.	
MEPH	do	University of Brazil, Rio de Janeiro.	63,000	Oct. 1, 1956, to Sept. 30, 1959.	General development of the Institute of Microbiology.	
MEPH, BMR	do	University of Minas Gerais, Belo Horizonte.	339,000	Jan. 1, 1956, to Dec. 31, 1959.	General development of faculty of medicine.	
MEPH	do	University of Recife, Recife	215,000	Apr. 4, 1956, to June 30, 1960.	do	

MEPH	do	University of Rio Grande do Sul, Porto Alegre.	36,000	Apr. 4, 1956, to June 30, 1958.	Teaching and research in anatomy and physiology.	
MPH	do	University of São Paulo, São Paulo.	35,500	Apr. 6, 1955, to Dec. 31, 1956.	Improvement of teaching facilities in departments of histology, anatomy, and physiology, faculty of medicine.	
MEPH	do	do	278,000	June 24, 1955, to Dec. 31, 1958.	Development of faculty of medicine at Ribeirão Preto through equipment and supplies.	
MEPH, BMR	British West Indies.	University College of the West Indies, Jamaica.	314,000	July 1, 1955, to June 30, 1960.	Training and research in faculty of medicine.	
MPH	Canada	McGill University, Montreal, Quebec.	47,250	Apr. 7, 1954, to Feb. 28, 1959.	Support of department of psychiatry.	Ewen Cameron, head of department.
MPH	do	University of Toronto, Toronto, Ontario.	29,150	July 1, 1954, to June 30, 1957.	Teaching in medical care by department of medicine and department of hygiene and preventive medicine.	
MPH	Chile	Catholic University of Chile, Santiago.	11,100	Jan. 1, 1953, to Dec. 31, 1955.	Department of neurosurgery, salary of Dr. Juan Ricardo Olivares and equipment.	
MPH	do	do	123,600	Apr. 6, 1955, to June 30, 1958.	Preclinical teaching and research in faculty of medicine.	Louis Vargas, director.
MEPH	do	University of Chile, Santiago	379,000	June 1, 1955, to May 31, 1960.	Development of faculty of medicine.	
MPH	Colombia	National University of Colombia, Bogota.	60,000	Apr. 7, 1954, to Dec. 31, 1956.	Equipment for faculty of medicine.	
MEPH	do	University of the Andes, Bogota.	570,000	Jan. 1, 1957, to Dec. 31, 1963.	Development of a school of premedical studies.	
MPH	do	Universidad del Valle, Cali	504,000	Jan. 1, 1955, to Dec. 31, 1959.	Development of department of preventive medicine and public health and associated activities by faculty of medicine.	
MPH	do	do	46,200	Mar. 1, 1955, to Feb. 28, 1960.	Support of school of nursing	Ines Viveros, director.
MPH	Finland	State Medical Board of Finland, Helsinki.	32,500	Jan. 1, 1954, to Dec. 31, 1956.	Training program of Uusimaa field demonstration and teaching area.	
MPH	do	University of Helsinki, Helsinki.	67,500	July 1, 1953, to June 30, 1958.	Teaching in medical school	
MPH	Germany	Academy of Public Health (Health Authority of the Free Hanseatic City of Hamburg), Hamburg.	35,000	Jan. 1, 1954, to Dec. 31, 1958.	Teaching program in public health.	Hans Harmsen.
MPH	do	Technische Hochschule, Stuttgart.	72,000	July 1, 1953, to June 30, 1956.	Education and research in sanitary engineering.	Franz Pöpel.
MPH	do	University of Heidelberg, Heidelberg.	10,000	June 1, 1952, to May 31, 1955.	Teaching and research, Physiological Institute.	Hans Schaefer, director.
MEPH	do	do	7,500	June 1, 1955, to May 31, 1958.	do	Do.
MPH	do	do	26,000	July 1, 1952, to June 30, 1955.	School of nursing; materials, equipment, and travel of staff.	
MPH	do	do	27,915	June 19, 1953, to Sept. 30, 1954.	Institute of Psychosomatic Medicine, general support.	Alexander Mitscherlich.

See footnotes at end of table, p. 1105.

ROCKEFELLER FOUNDATION APPROPRIATIONS—Continued

5-year period, Apr. 2, 1952, to Apr. 3, 1957, exclusive of grants for administration, fellowships, and grants in aid [1]—Continued

PROFESSIONAL EDUCATION IN MEDICINE, PUBLIC HEALTH AND NURSING—Continued

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
MPH	Great Britain	Institution of Civil Engineers, London, England.	$36,000	May 22, 1952, to Dec. 31, 1955.	Bursaries for graduate training and research in public health engineering in universities in United Kingdom.	
MPH	do	do	48,000	Nov. 30–Dec. 1, 1954 to Dec. 31, 1960.	do	
MPH	do	Medical Research Council of Great Britain, London, England.	125,000	Jan. 22, 1954 to Aug. 31, 1959	Fellowships in medical sciences	
MPH	do	University of Durham, King's College, Newcastle-upon-Tyne, England.	48,000	July 1, 1954 to June 30, 1958	Postgraduate training and research in public health engineering.	
MPH	do	University of London, London, England.	45,000	Jan. 21, 1955 to Aug. 31, 1960	Establishment of a department of occupational health at London School of Hygiene and Tropical Medicine.	
MPH	do	University of London, University College, London, England.	30,000	Feb. 1, 1953 to Jan. 31, 1958	Study of medical student selection	J. Z. Young, director.
MPH	do	Royal Technical College, Glasgow, Scotland.	82,000	Jan. 1, 1955 to Dec. 31, 1959	Postgraduate training and research facilities in environmental control engineering with particular reference to underdeveloped areas.	
MPH	do	University of Edinburgh, Edinburgh, Scotland.	75,000	Oct. 1, 1952, to Sept. 30, 1957	Teaching of family practice	Richard Scott.
MEPH	do	do	90,000	July 1, 1955, to June 30, 1960	Establishment of nursing teaching unit.	
MEPH	India	Christian Medical College, Ludhiana.	30,000	Aug. 1, 1956, to July 31, 1959	Promotion of preventive medicine teaching and investigation.	
MEPH	do	Christian Medical College, Vellore.	34,100	Sept. 30, 1955, to July 31, 1959.	Operation of department of preventive and social medicine.	
MEPH	do	do	115,300	July 1, 1956, to June 30, 1958	Construction and equipment of an outpatient teaching building.	
MEPH	do	do	252,110	July 1, 1956, to June 30, 1961	Program of staff development and salary increases.	
MPH	do	Indian Council of Medical Research, New Delhi.	121,000	May 1, 1953, to Apr. 30, 1956	Fellowships in postgraduate medical training.	
MEPH	do	Seth Gordhandas Sunderdas Medical College, Bombay.	76,300	July 1, 1956, to June 30, 1958	Additional laboratory and office space for teaching and research program.	

MEPH	do	do	197,000	July 1, 1956, to June 30, 1961	Equipment and supplies for teaching and research in departments of medicine, surgery, biochemistry and pharmacology.	
MEPH	do	State Medical College Hospital, Trivandrum.	35,000	May 1, 1956, to Apr. 30, 1957	Improved clinical teaching facilities in medicine and nursing.	R. Kesavan Nair, hospital superintendent, director.
MEPH	do	University of Lucknow (King George's Medical College), Lucknow.	163,500	July 1, 1956, to June 30, 1961	Domiciliary expenses involved in housing interns and residents.	
MEPH	do	do	136,250	July 1, 1956, to June 30, 1958	Construction and equipment of building for interns and residents.	
MEPH	do	do	10,000	July 1, 1956, to June 30, 1961	Development of a medical library.	
MPH	Italy	University of Naples, Naples	45,800	July 1, 1953, to June 30, 1958	Education and research in sanitary engineering.	Girolamo Ippolito.
MPH	Japan	Institute of Public Health, Tokyo.	72,050	June 19, 1953, to June 30, 1956.	Equipment, teaching, and field training facilities.	
MEPH	do	Keio University, Tokyo	290,000	May 25, 1956, to June 30, 1958.	School of medicine—building for departments of pathology, bacteriology and forensic medicine.	
MPH	Lebanon	American University of Beirut, Beirut.	500,000	Mar. 1, 1953, to Feb. 28, 1958	Medical division development and operation.	
MPH	Mexico	Hospital Infantil, Mexico, D.F.	150,000	Jan. 1, 1955, to Dec. 31, 1959	Research and training program	Federico Gomez, director.
MEPH	do	University of Chihuahua, Chihuahua.	20,000	Jan. 29, 1957, to June 30, 1958.	Equipment for department of physiology.	
MEPH	do	University of Guadalajara, Guadalajara, Jalisco.	40,000	Feb. 21, 1957, to June 30, 1958.	Equipment for departments of physiology, biochemistry and pathology, faculty of medicine.	Roberto Mendiola.
MPH	Peru	University of San Marcos, Lima	90,000	Mar. 1, 1955 to Feb. 28, 1957	Teaching and research in department of pathological physiology.	
MEPH	do	do	12,000	Oct. 25, 1956 to Dec. 31, 1957	Survey of facilities and curriculum, faculty of medicine.	Alberto Hurtado, dean.
MPH	Philippine Islands	University of the Philippines, Manila.	18,300	June 1, 1953 to May 31, 1956.	Institute of hygiene—expenses of temporary staff from Johns Hopkins University.	
MEPH	do	do	12,200	June 1, 1956 to May 31, 1959	do	
MPH	Puerto Rico	University of Puerto Rico, San Juan.	25,000	Feb. 26, 1954 to June 30, 1957	Development of medical school library.	
MPH	Switzerland	Le Bon Secours School of Nursing, Geneva.	36,000	Jan. 1, 1953 to Dec. 31, 1957	Nursing education, equipment and travel of staff.	
MEPH	Turkey	University of Ankara, Ankara	100,000	Feb 1, 1956 to Jan. 31, 1960	Equipment, supplies, and visiting teachers and specialists for department of child health.	Ihsan Dogramaci, director.
MPH	Union of South Africa.	University of Natal, Durban	127,200	Jan. 1, 1955 to Dec. 31, 1959	Development of a department of family practice in the Durban Medical School.	
MEPH	United States	Albany Medical College, Albany, N.Y.	90,000	July 1, 1956 to June 30, 1959	Experimental radio program of regional postgraduate medical education.	
MEPH	do	Boston University, Boston, Mass.	50,000	Oct. 25, 1956 to Dec. 31, 1958	Study of curriculum for the school of medicine and college of liberal arts.	

[1] See footnote at end of table, p. 1105.

ROCKEFELLER FOUNDATION APPROPRIATIONS—Continued

5-year period, Apr. 2, 1952, to Apr. 3, 1957, exclusive of grants for administration, fellowships, and grants in aid [1]—Continued

PROFESSIONAL EDUCATION IN MEDICINE, PUBLIC HEALTH AND NURSING—Continued

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
MPH	United States	Columbia University, Teachers College, New York, N.Y.	$100,000	Sept. 1, 1952 to Aug. 31, 1957	Nursing education research, experimentation, and field service.	R. Louise McManus, director.
MEPH, BMR	do	Cornell University, Ithaca, N.Y.	95,000	Jan. 1, 1956 to Dec. 31, 1960	Department of pathology—application of electron microscopy to teaching of pathology and study of cytological changes in disease.	John G. Kidd, director.
MPH	do	Harvard University, Cambridge, Mass.	100,000	June 1, 1952, to May 31, 1956.	Development of legal medicine	Richard Ford, acting chairman.
MPH	do	do	275,000	July 1, 1954, to June 30, 1959.	Research and teaching in a program of complete family medical care at Massachusetts General Hospital.	
MPH	do	Johns Hopkins University, Baltimore, Md.	200,000	Outright, June 19, 1953	Institute of History of Medicine	Richard Shryock.
MPH	do	do	12,000	June 1, 1953, to May 31, 1956.	School of hygiene and public health, cooperation with University of the Philippines.	
MEPH	do	do	12,000	June 1, 1956, to May 31, 1959.	do	
MPH	do	Medical Library Association, Detroit, Mich.	15,000	May 21, 1954, to May 31, 1957.	Foreign fellowships in medical librarianship.	
MPH	do	National Research Council, Washington, D.C.	150,000	July 1, 1955, to June 30, 1958.	Fellowships in the medical sciences.	
MEPH	do	New York University, Bellevue Medical Center, New York, N.Y.	30,000	Apr. 4, 1956, to June 30, 1956.	Training a care group of rehabilitation personnel for the Burmese Government.	
MPH	do	Simmons College, Boston, Mass.	40,000	Jan. 1, 1953, to Dec. 31, 1957.	Graduate course in public health nursing in cooperation with Harvard School of Public Health.	
MEPH	do	Tulane University, New Orleans, La.	182,000	Jan. 29, 1957, to June 30, 1962.	Training program for foreign fellows in basic natural and biological sciences.	William Wendel.
MEPH	do	do	200,000	Jan. 29, 1957, to June 30, 1962.	Graduate training program in chemical pathology.	Charles E. Dunlap and William Wendel.
MEPH	do	Unitarian Service Committee, Inc., Boston, Mass.	18,000	Mar. 1, 1956, to Feb. 28, 1957.	To send American consultants to Japan to teach modern anesthesiology in medical schools.	
MPH	do	Vanderbilt University, Nashville, Tenn.	3,000	Nov. 15, 1953, to Nov. 14, 1956.	Exchange of senior assistants in department of pediatrics with Pediatric Clinic, Karolinska Institutet, Sweden.	Amos Christie, Vanderbilt; Arvid Wallgren, Karolinska.
MPH	do	Washington University, St. Louis, Mo.	73,500	July 1, 1952 to June 30, 1957	Teaching of preventive medicine	Robert Shank, chairman, Department of Preventive Medicine.
BMR, MEPH	Uruguay	Ministry of Public Health, Uruguay, Montevideo.	39,000	Feb. 24, 1956 to Dec. 31, 1959	Local training fellowships at the Research Institute of Biological	Clemente Estable, director.

BMR, MEPH	Uruguay	Ministry of Public Health, Uruguay, Montevideo.	39,000	Feb. 24, 1956 to Dec. 31, 1959.	Local training fellowships at the Research Institute of Biological Sciences.	Clemente Estable, director.
MPH	do	University of Montevideo, Montevideo.	32,500	Apr. 6, 1955 to Dec. 31, 1956.	To improve facilities of departments of physiology, histology and embryology and biophysics, faculty of medicine.	Diamante Bennati.
MEDICINE AND PUBLIC HEALTH—SPECIAL PROJECTS						
MEPH	India	Indian Council of Medical Research, New Delhi.	$49,500	July 1, 1955 to June 30, 1957.	Construction of new office building.	
MEPH	United States	Harvard University, Cambridge, Mass.	163,280	Apr. 1, 1956, to Mar. 31, 1960.	Field study of population problems in India.	John E. Gordon, director.
MEPH	do	University of Chicago, Chicago, Ill.	38,100	Sept. 30, 1955, to Dec. 31, 1956.	Study of integration of Negroes in medicine by department of sociology.	Dietrich C. Reitzes, director.

[1] Grants-in-aid: In addition to the appropriations shown in this list, a number of smaller grants of $10,000 or less are made each year through allocations by the officers of the foundation from funds provided for this purpose annually by the trustees. In the 5-year period 1953 through 1957 such grants in the fields of medical education and public health and in biological and medical research totaled as follows:

Field	Year	Total amount of allocations
Medical education and public health	1953	$399,679
	1954	346,515
	1955	254,098
	1956	364,787
	1957	330,922
		1,696,001
Biological and medical research	1953	----------
	1954	----------
	1955	284,422
	1956	401,802
	1957	437,875
		1,124,099

A large portion of these grants-in-aid was made to institutions abroad, particularly in underdeveloped countries, and for travel grants to individuals from these countries. In addition, a special foundation program for Hungarian refugees, begun in 1956, has included aid to a number of Hungarian doctors and medical scientists who are now establishing themselves in the United States.

EXHIBIT E—PART II

ROCKEFELLER FOUNDATION APPROPRIATIONS

Apr. 3, 1957, to July 1, 1958, exclusive of grants for administration, fellowships, and grants-in-aid

(See note at the beginning of pt. I which lists grants for the period Apr. 2, 1952, to Apr. 3, 1957)

BIOLOGICAL AND MEDICAL RESEARCH—SPECIAL PROJECTS

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
BMR	Australia	University of Sydney, Sydney	$14,250	Apr. 1, 1958, to Mar. 31, 1959	Equipment for research in department of medicine.	Dr. C. R. B. Blackburn, director.
BMR	Finland	University of Helsinki, Helsinki	47,000	July 1, 1958, to June 30, 1960	Research equipment for basic science institutes of faculty of medicine.	
BMR	Yugoslavia	Yugoslav Academy of Science and Arts, Zagreb.	33,000	July 1, 1958, to June 30, 1961	Research equipment for Institute for Medical Research and for School of Public Health of University of Zagreb.	
				INVESTIGATION AND CONTROL OF SPECIFIC DISEASES		
BMR	Australia	Australian National University, Canberra.	$30,000	July 1, 1958, to June 30, 1963	Research equipment and supplies in Department of Microbiology, John Curtin School of Medical Research.	
BMR	Finland	University of Helsinki, Helsinki	40,000	Jan. 24, 1958, to Sept. 30, 1961	Virus research	Prof. Nils Oker-Blom.
BMR	India		100,000	Sept. 27, 1957, to Dec. 31, 1958.	Manufacture in United States of vaccine for Kyasanur forest disease and in initiating production of vaccine in India and for program to control disease.	
BMR	Japan	National Institute of Health, Tokyo.	130,000	Apr. 1, 1958, to Mar. 31, 1962	Virus research program	Dr. Masami Kitaoka, director.
BMR	Yugoslavia	University of Zagreb, Zagreb	25,000	June 1, 1958, to May 31, 1960	Equipment for virus research	Dr. Jelka Vesenjak, director.

MEDICAL CARE

MEPH	Canada	University of Toronto, Toronto, Ontario.	$115,500	May 23, 1957, to Dec. 31, 1960.	Studies of general medical practice in Canada by school of hygiene.	Kenneth Clute, director.
MEPH	Puerto Rico	Department of Health, Government of Puerto Rico, San Juan.	25,000	Sept. 27, 1957, to Feb. 28, 1958.	Toward regionalization of medical and public health facilities in Bayamon region.	
MEPH	do	do	565,000	Dec. 3-4, 1957, to June 30, 1962.	do	

PROFESSIONAL EDUCATION IN MEDICINE, PUBLIC HEALTH AND NURSING

MEPH, BMR	Argentina	University of Cuyo, Mendoza	$100,000	Feb. 27, 1958, to Mar. 31, 1960.	Research and teaching equipment and supplies for school of medicine.	
MEPH	Brazil	Campanha Nacional de Aperfeicoamento de Pessoal de Nivel Superior (Campaign for Improvement of Higher Personnel), Rio de Janeiro.	145,000	Jan. 1, 1958, to Dec. 31, 1959.	Training of teachers for medical and nursing schools.	
BMR, MEPH	do	University of Rio Grande do Sul, Porto Alegre.	30,000	Feb. 1, 1958, to Jan. 31, 1960.	Equipment and materials for teaching and research in department of therapeutics.	Prof. Eduardo Z. Faraco.
MEPH	Canada	University of Laval, Quebec	25,000	July 1, 1958, to June 30, 1960.	Revision of medical school curriculum.	
MEPH	Ceylon	University of Ceylon, Colombo	57,000	May 1, 1958, to Apr. 30, 1961.	Equipment and supplies for departments of biochemistry, pharmacology, physiology, and pediatrics and for medical library.	
MEPH, BMR	Colombia	University del Valle, Cali	210,000	Sept. 27, 1957, to June 30, 1962.	Development of research programs, establishment of full-time teaching posts, and educational library facilities in faculty of medicine.	
MEPH	do	do	100,000	Outright, Dec. 31, 1960	Teaching and service facilities in medical and surgical wards of hospital for faculty of medicine and school of nursing.	
MEPH	El Salvador	University of El Salvador, San Salvador.	171,000	June 21, 1957, to Dec. 31, 1959.	Personnel and equipment for basic science teaching, school of medicine.	
BMR, MEPH	Finland	University of Turku, Turku	61,200	July 1, 1958, to June 30, 1963.	Full-time research and teaching positions for assistants in basic science institutes of medical school.	

ROCKEFELLER FOUNDATION APPROPRIATIONS—Continued

Apr. 3, 1957, to July 1, 1958, exclusive of grants for administration, fellowships, and grants-in-aid—Continued

PROFESSIONAL EDUCATION IN MEDICINE, PUBLIC HEALTH AND NURSING—Continued

Division or program	Country	Institution	Amount	Period	Purpose	Personnel
MEPH	India	All India Institute of Medical Sciences, New Delhi.	$100,000	May 1, 1958, to Apr. 30, 1960.	Teaching and research equipment for preclinical and clinical departments.	
MEPH	do	Christian Medical College, Ludhiana.	6,235	Oct. 24, 1957, to July 31, 1959.	Preventive medicine teaching and development of health education techniques to environmental sanitation.	
MEPH	do	Christian Medical College, Vellore.	21,000	Jan. 1, 1958, to Dec. 31, 1959.	Development of medical record library.	
MEPH	do	Indian Council of Medical Research, New Delhi.	58,000	May 1, 1958, to Apr. 30, 1961.	Postgraduate medical training fellowships.	
MEPH	do	Institute of Child Health Trust, Calcutta.	45,000	May 23, 1958, to June 30, 1960.	Equipment for basic science departments and for library.	
MEPH	Italy	University of Naples, Naples	15,000	July 1, 1958, to June 30, 1960.	Education and research in sanitary engineering.	Prof. Girolamo Ippolito.
MEPH	Japan	Keio University, Tokyo	18,000	June 21, 1957, to June 30, 1958.	Radiological hygiene program in department of preventive medicine and public health.	Dr. Masakazu Kurata, director.
MEPH	Puerto Rico	University of Puerto Rico, San Juan.	75,000	June 21, 1957, to June 30, 1958.	Study of requirements and design for new medical sciences building in Puerto Rico Medical Center.	
MEPH	Turkey	University of Ankara, Ankara	170,000	Jan. 24, 1958, to Jan. 31, 1960.	Equipment for faculty of medicine.	
MEPH, BMR	do	University of Istanbul, Istanbul.	20,000	June 21, 1957, to Dec. 31, 1958.	Equipment for teaching and research at Institute of Physiology.	
MEPH	United States	Medical Library Association, Detroit, Mich.	15,000	May 23, 1957, to May 31, 1960.	Foreign fellowships in medical librarianship.	
MEPH	do	New York University, Bellevue Medical Center, New York, N.Y.	11,000	Sept. 27, 1957, to Sept. 30, 1958.	Training a core group of rehabilitation personnel for the Burmese Government.	

10. American Rehabilitation Centers and Experts

Senator Humphrey. In the eighth committee print in our series, the subcommittee devoted attention to "Rehabilitation of the Disabled in 37 Countries of the World" (S. Rept. No. 1038, Jan. 22, 1960). This was an account of domestic programs and international activities in technical assistance. It was prepared with the able cooperation of Miss Mary E. Switzer, Director of the Office of Vocational Rehabilitation, and her staff.

So highly, however, does the subcommittee regard international rehabilitation efforts that we are devoting additional attention at this point. Thus, there are reprinted hereinafter a series of letters from American rehabilitation centers which we contacted. These are only a few of the many outstanding centers which are active in international cooperation on rehabilitation.

I would like to observe that an entire section of this volume might be devoted to any one of the institutions referred to herein and to many other centers, all of which are doing such a notable work in restoring the physically and mentally disabled to social dignity and economic independence. For example, the famed New York University—Bellevue Medical Center's Institute of Physical Medicine and Rehabilitation under the inspired leadership of Dr. Howard A. Rusk could be elaborated upon at great length. Its fame is worldwide and deservedly so.

In my own State of Minnesota, as I pointed out in the aforementioned committee print, are institutions, physicians, and technicians who have won national and international recognition for pioneering in rehabilitation.

Without attempting an all-inclusive list of these honored leaders, I might mention Dr. Frank H. Krusen who founded the Section of Physical Medicine and Rehabilitation of the Mayo Clinic in 1935, and who in the decades which have followed has won from his peers deserved honors almost too numerous to mention. Dr. Krusen has served as Special Assistant for Health and Medical Affairs to the Director of the Office of Vocational Rehabilitation. He is now serving as president of the Elizabeth Kenny Foundation in which capacity he is spearheading the domestic and overseas work of its associated American Rehabilitation Foundation.

COMMENTS BY A FOREIGN PHYSICIAN

As an indication of Dr. Krusen's view and that of many others in all 50 States of the Union on the importance of international cooperation, there follows the text of a letter which he wrote to me, a few months after our study got under way:

Mayo Clinic,
Rochester, Minn., December 9, 1958.

Dear Senator Humphrey: I have just received a letter from a young, Dutch physician who spent a year in training with me here at the Mayo Foundation and one of his remarks points up in a very significant fashion the importance of the development of health programs on an international scale in accordance with the ideas you have been advancing recently.

This physician from The Netherlands says: "I am very grateful for having had the chance to be trained in your country, especially in your Clinic, even just for one year. I learned to appreciate your perfect organization in the education of medical specialists and saw that many stories about your country

cannot be generalized. I learned, moreover, that many of our well-organized medical services, the low death rate, the high average age, and the low infant mortality could be improved if there were more contacts with physicians of other countries and if there were less prejudices."

Wise development of international programs for the improvement of the health of the peoples of the world will, in my opinion, tend to break down prejudices. Furthermore, I think that such programs will teach the people of other countries the true character of the American people so that they will learn, as did my Dutch graduate medical student, "that many stories about your country cannot be generalized."

Sincerely yours,

FRANK H. KRUSEN, M.D., *Senior Consultant.*

Senator HUMPHREY. Dr. Krusen was president of the Third International Congress of Physical Medicine. Chairman of the Congress' Program Committee was Dr. Frederic J. Kottke, president of the American Congress of Physical Medicine and Rehabilitation. Another distinguished Minnesotan, Dr. William G. Kubicek, has likewise been one of this subcommittee's closest collaborators in developing plans for broadened programs of physical medicine and rehabilitation at home and abroad.

Within the Federal Government, no official is better qualified to comment on "Rehabilitation as a Force in International Relations" than the able Director of the Office of Vocational Rehabilitation, Miss Mary E. Switzer.

The following is the text of an address delivered on May 6, 1960, on this theme before an International Luncheon of the President's Committee on Employment of the Physically Handicapped in Washington, D.C.

REHABILITATION AS A FORCE IN INTERNATIONAL RELATIONS

Remarks by Miss Mary E. Switzer, Director, Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, Washington, D.C., May 6, 1960

The interdependence of nations is one of the certainties of this age. As the world shrinks in time and distance, all of us become increasingly aware of how one part of the world depends on other parts, not only for economic well-being, but for measures that protect world health and enhance the welfare of the disabled.

It is eminently fitting that such an important organization in our national rehabilitation effort as the President's Committee on Employment of the Physically Handicapped should help to point up the fact that rehabilitation has grown into a truly worldwide movement, by bringing us together at this luncheon to make us better prepared for the highly important international meetings that will take place this year, and their effect on international understanding as well as international rehabilitation.

We are on the eve of the Eighth World Congress of the International Society for the Welfare of Cripples, in New York City, in August. Its theme, "Rehabilitation and World Peace," is particularly appropriate. Man's greater awareness of the forces within his environment that affect his welfare is bringing to a heartening glow the regard for the disabled that, in this country, was kindled 40 years ago. Few of us who are concerned with rehabilitation can escape the feeling that the forum of 5,000 people from many countries who will exchange opinions, information and viewpoints at the Congress, despite any differences in nationality, religion, ideology or economic status, can end with anything but accord and greater bonds of international friendship.

I was literally amazed last summer while attending the First Mediterranean Conference on Rehabilitation in Athens, Greece, to learn of the progress that some of the eastern nations have made toward rehabilitating their disabled. They, too, are realizing the great burden of dependency that can be erased

through vocational rehabilitation of the disabled. As the importance of the individual becomes more pronounced in nations that for centuries had accepted ill health and disability as a condition of existence, the health of the individual becomes of more concern.

This feeling was substantiated and extended toward most of the nations of the world by a publication since issued under direction of the Committee on Government Operations of the United States Senate. Under the title, "Rehabilitation of the Disabled in Thirty-Seven Countries of the World," it is a highly informative contribution to the cause of international rehabilitation programs, and the needs and hopes of the future.

In January, a seminar on International Rehabilitation, held here in Washington, was the means of our taking a look at the expansion of activities and interest in international rehabilitation in the past few years. It was sponsored by the National Rehabilitation Association and the International Society for the Welfare of Cripples, and marked the first time that voluntary groups in the United States had met with Government agencies concerned with rehabilitation, to review the past and to explore the future of our programs with relation to international rehabilitation.

One of the subjects for seminar discussion was the use to which counterpart funds in several countries could be placed as the world moves toward acceptance of rehabilitation as a universal ideal rather than purely national activities.

The United States Government acquires and expends large amounts of foreign currencies in its oversea operations. The Department of Health, Education, and Welfare, in its proposed budget for 1961, has asked for $930,000 in these funds to be set aside for rehabilitation activities in nine countries. Included are India, $350,000; Israel, $100,000; Yugoslavia and Poland, $90,000 each; United Arab Republics, $80,000; Pakistan, $70,000; Brazil, $60,000; Indonesia, $50,000; and Burma, $40,000.

These funds—which, of course, have to be expended in the countries where they are accumulated—would be used for two principal purposes: (1) educational activities in the need for and use of rehabilitation measures, and (2) support of selected research and demonstration projects. The program would be carried on through the regular grant mechanisms of the Office of Vocational Rehabilitation, with utilization of the resources of the various international rehabilitation organizations.

A major problem in international rehabilitation, according to the seminar, is the public attitude of governments and their people toward rehabilitation. One of the reasons for slow progress in some countries is the lack of understanding of what rehabilitation is and what it means. Possibly one of the best uses to which some of these funds could be put is to aid the efforts of strong international rehabilitation organizations in emphasizing to governments and people the dividends that rehabilitation of the disabled can pay.

It is considerably within our own interests that international research and demonstration projects be initiated. There are 20 million persons throughout the world, for instance, who are stricken and disfigured by Hansen's disease, or leprosy. Some are in the United States, particularly in the new State of Hawaii. New drugs and surgical procedures enable many patients to regain use of their hands. Many scars are eliminated. Total rehabilitation is becoming a reality, but more research is needed. Highly valuable work is underway in India, and, with further development of research facilities there, specialists from all over the world can learn the techniques that are helping so much to remove the effects of this dread disease.

In Indonesia, there exists an ideal opportunity to conduct research into the manufacture of prostheses from native materials that are resistant to the effects of heat and humidity. The rehabilitation center in Solo has done some remarkable things along this line which could be of benefit to us and to the rest of the world, if further research and demonstrations were conducted.

A great deal of rehabilitation activity in India is among its blind, but one of the great problems there is finding employment for those who are prepared for work. This is being overcome, and the methods used to find employment in a country that is over-populated and where unemployment is widespread are worthy of study.

These are some of the trends in our thinking and illustrate some of the ways counterpart funds could be importantly used. Other projects in relation to the specific needs of various countries are in our collective thoughts, so that international research will be speeded on its way to solution of problems common to many countries.

Rehabilitation, by its very nature, involves people closely with the verities of life—their physical or mental state, their independence, their abilities to earn and to enjoy basic satisfactions. This universal yearning of the disabled to be accepted on individual merit has met a guardian and protector in that phase of the growing People-to-People Program that deals with the disabled and the handicapped.

Our coworker and friend, General Melvin Maas, Chairman of the President's Committee on Employment of the Physically Handicapped, has most appropriately been named to head the Committee on the Physically Handicapped within the People-to-People Program. Under his guidance, the committee is doing several things that add a needed human touch to international rehabilitation. On the more administrative side, the committee has brought together in liaison the efforts of close to 30 organizations in the United States that are concerned with rehabilitation, and has formed lines of communication with rehabilitation groups all over the world. It has also performed a notable service in compiling a directory of international rehabilitation groups.

In more personal and intimate context, the committee promotes correspondence among disabled persons in many countries, and on the intensely practical side, the committee provides a fine service for amputees over the world by acting as a clearinghouse for component parts of the many kinds of prosthetic devices that are in world use.

The research and demonstration program of the OVR is developing on its own account somewhat an international flavor. Though we do not have as many resources for this purpose as we would like, some of our projects do have worldwide implications. We have moved to support world organizations working in international rehabilitation, and to carry on projects that will benefit other nations as well as ourselves.

Grants have been made to the International Society for the Welfare of Cripples to aid the exchange of information that is developed on technical skills and knowledge in their Congresses, and the same was done for the American Congress of Physical Medicine and Rehabilitation in Chicago this year. Another grant was to the Excerpta Medica Foundation to abstract worldwide publications on rehabilitation and publish them periodically.

In more active settings, the World Federation for Mental Health, of New York, has received a grant to study attitudes toward mental health and mental illness in diverse settings, so that there will be greater opportunity for effective community health programs to evolve. Gallaudet College has an award to help support a study and analysis of communicative patterns developed by young deaf persons in order to improve communicative techniques for vocational rehabilitation. And, in 1958, the Industrial Home for the Blind of Brooklyn, New York, completed a project that provided the first definitive steps anywhere for rehabilitation of the group whose plight arouses a most poignant desire to help—the deaf-blind. It also gave impetus to a method of palm writing, developed by experts in England, Holland and the United States, that many persons believe will become a standard way of communication for these people over the world.

An immense amount of interest in international rehabilitation has been aroused through the "Health for Peace" bill, passed by the Senate last year, and now pending in the House.

This legislation would establish a program of financial aid for international research into diseases that cripple and kill mankind, and it would be a means of gathering, correlating, storing and disseminating knowledge about medical advances as they are made over the world. It has high potentialities for speeding the eradication of disease and for lessening the incidence of disability.

The eagerness of governments and their peoples to learn about rehabilitation and to apply knowledge and methods effectively is well illustrated in the growth of activities in the International Unit of the Office of Vocational Rehabilitation.

The principal activity of the International Unit is to prepare the way for people from other countries to study and observe rehabilitation in the United States. Physicians, health and hospital administrators, and workers in related fields come to our colleges, universities and rehabilitation centers, under arrangements made by OVR. Some are government officials, as was a recent visitor, the director of rehabilitation information activities for Yugoslavia, which has a rehabilitation program well under way. But there are physicians and technicians who come for stays of up to a year or more, under sponsorship of the United Nations or the World Health Organization, International Labor Organization, State Department, or voluntary agencies.

In 1947, as nations began to readjust their economies to a postwar world, there was a notable upsurge of interest in rehabilitation over the world. In that year, eight persons from other countries visited our country to study rehabilitation under OVR guidance.

The number has increased regularly, to 42 in 1958, and we have 30 more in the first quarter of this year, to bring the total of long-term visitors to 295 since 1947. In short-term training—that is, periods of two months or less—the numbers are even greater. We have had 60 in the first quarter of the year, to bring this total to 769 short-term visitors since 1949.

The mission of rehabilitation is to mend, and not to destroy; to prevent and heal the scars of disability. We have arrived at the place where all of us must blend our national aspirations for our disabled into a world viewpoint. We who work in rehabilitation should keep in mind that, whatever our task may be in working with and for the disabled, we are individual ambassadors of peace. Our efforts to restore the hopes of those who seek only adequate opportunity to live useful and satisfying lives justify our existence in rehabilitation. More than that, our cumulative efforts can mount up to becoming a powerful instrument in international affairs, one that could be profound in the establishment and maintenance of enduring peace among nations.

LETTERS FROM AMERICAN REHABILITATION CENTERS

Senator HUMPHREY. The following letters from some of our numerous centers are arranged alphabetically by States of the Union. Each responded to questions which we submitted uniformly to them in order to determine the extent of their international work and their evaluation of its significance.

EAST BAY REHABILITATION CENTER,
Berkeley, Calif., May 7, 1959.

MY DEAR SENATOR HUMPHREY: The following are my answers to your questions concerning worldwide health research rehabilitation and assistance problems.

1. Our experience with foreign nationals has been one physical therapy trainee from Denmark. We are expecting a second in September. As yet we have not formed definite opinion of this type of program. Recently we have had visitors who are physicians from Finland, India, and Japan. Their specialty has been orthopedics. The hospital to which we are attached has many oversea visitors from all over who are primarily interested in public health.

2. We find great interest on the part of our visitors and we learn a great deal from them. Problems seem to be similar all over the world.

3. Our feeling is that rehabilitation is a challenge in any country in the world. In the less advanced and heavily populated areas it is just a greater challenge. Evidently sanitation and basic public health measures could prevent some of the need for rehabilitation. In any event, rehabilitation will be a very long term project in many countries such as Iran or even closer to the United States, such a country as Mexico.

4. My suggestions for two-way collaboration in rehabilitation research and therapy are:

(*a*) Fellowships be granted to qualified rehabilitation personnel from foreign nations to visit hospitals, medical schools, and rehabilitation centers in the United States and Canada and any Western European countries that have well established programs. In addition to this, I believe fellowships should also be granted for post-graduate study in new techniques and methods. If necessary, undergraduate scholarships could be set up for countries which do not have organized courses for all disciplines. Ultimately, of course, help should be given to start training schools in the interested countries by nationals.

(*b*) Ideally, I believe the foreign nations should send personnel abroad to learn and such personnel be charged with setting up programs at home. Sending experts from the United States to survey a situation or act as consultant is a good idea. However, I believe a more effective program can be instituted by a person who is a native of the country. I have spoken to nationals who concur as well as personnel from the United States who have had experience trying to start programs in other countries.

(*c*) Visitors from India have voiced the same request I heard when visiting a Mexican rehabilitation center, which is for publications including magazines, reprints, advertisements, and books. Some feel there should be translations; others understand English sufficiently that they feel it is not necessary. There is a feeling by some nationals that much progress is being made everywhere, but they don't hear about it except by chance.

(*d*) Another need expressed is for therapeutic equipment or samples of same so that it could be manufactured in their country.

I trust the foregoing may be of some assistance. If I can be of further help, please let me know.

Sincerely,

MARIE K. MOYNIHAN, *Director.*

LOS ANGELES REHABILITATION CENTER,
Los Angeles, Calif, May 13, 1959.

DEAR SIR: I am in receipt of your letter of April 22, 1959, requesting my reactions to the question, "What should the United States Government do in order to secure and encourage further international cooperation in rehabilitation of the handicapped?"

Although our rehabilitation center has been functioning since 1952, it is only within this past year that we have added the personnel necessary to function as a comprehensive type of center. We have, therefore, not been in a position in the past to attract foreign interest.

We do, however, have a number of foreign students who plan to return to their native countries after finishing their instruction at the college with which this center is associated, the College of Osteopathic Physicians and Surgeons.

Several of the faculty members of the Department of Physical Medicine and Rehabilitation have taken postgraduate studies in Europe, one of whom is at the present time in Amsterdam.

I believe that one of our greatest problems in strengthening a two-way collaboration is that of effective communication. This could be improved by compiling a descriptive directory of institutions in foreign countries which are engaged in rehabilitation of the handicapped. As you do no doubt know, such a publication is now available for the United States and Canada and lists pertinent data regarding 77 rehabilitation centers. Something similar to this, but including all of the known rehabilitation facilities in foreign countries, would be welcomed by those of us in the United States who are interested in rehabilitation.

This would no doubt result in at least an exchange of correspondence with foreign workers.

An international rehabilitation conference would very likely promote a healthy exchange of ideas among the leaders in rehabilitation. If a Government grant were to be made available for such a conference, it would assure attendance by rehabilitation experts who would otherwise find this a hardship.

The International Society for the Welfare of Cripples has been doing an outstanding job of disseminating literature on rehabilitation to interested people. I feel that this type of program on a wider scale would be of value.

Thank you for the report of your committee. I'll be interested in receiving any further reports which you may have regarding rehabilitation.

Sincerely,

J. M. ANDREWS, D.O., *Medical Director.*

LIBERTY MUTUAL INSURANCE CO.,
Boston, Mass., May 29, 1959.

DEAR SENATOR HUMPHREY: You will recall our earlier correspondence in January regarding the visits of foreign nationals to our rehabilitation center in Boston.

We are now in receipt of your additional correspondence of April 22, addressed to our Chicago rehabilitation center, which has been forwarded to my attention. In general, the comments made in my letter of January 19 regarding the visits to the Boston rehabilitation center are essentially applicable to our Chicago center, except that the number of visitors in Chicago has been less than in Boston.

On the accompanying sheet, you will find listed the answers to the four questions raised in your memorandum of April 22, which accompanied your letter of the same date. The answers to these questions, except for the appropriate division made in the first answer, would be applicable to the experience in both our Boston and Chicago centers.

In regard to the general question raised in your letter as to what the United States Government should do in order to secure and encourage further international cooperation in rehabilitation of the handicapped, it would be my feeling that this might well take two directions. The first would be the wholehearted support, both from a policy and a financial point of view, of the fine work which is already being done on a limited scale by those organizations in exerting a real influence in the international aspects of rehabilitation. I refer to such groups as the World Rehabilitation Fund, the World Veterans' Association, the International Society for the Welfare of Cripples, the Medico and CARE programs, the work of the Unitarian Service Committee and that of the Quaker organization in supporting medical teams which have been very effective in various parts of the world. The second course would be the enlargement in scope of an exchange program. This would involve various professional and technical levels which would both encourage and develop visits, courses of study, exchange of information and ideas by interested and active persons in the rehabilitation field, both in this country and in foreign countries. Coupled with this last would be the constructive support, both in terms of information and finances, of rehabilitation programs and facilities in foreign lands.

I share your views and those of other outstanding rehabilitation leaders that rehabilitation, as both a philosophy and a process, fits very close to the whole concept of human dignity and individual pride of accomplishment which lies beneath the moves toward independence and self-assertion which have marked the so-called backward nations and races in recent years. Their willingness to support Christian principles and democratic ideals may well rest upon whether we as a nation can convince them, both by example and by assistance, that we are sincerely interested in the welfare of the individual and particularly that segment of our society which is mentally or physically handicapped. Many people in foreign lands are daily witnesses of disability as the result of sickness or injury on a scale which is difficult for us to even comprehend in terms of our own society and economy. Any broad attempt to help this often neglected segment of their peoples would stand as a convincing demonstration of the value we place upon individual welfare.

In the thought that it might be of some assistance in your continued thinking and action in this field, I am sending you under separate cover a copy of my book, published last year, entitled "Rehabilitation—A Community Challenge." I think that Chapter 23 particularly may be of interest to you.

Please let me know if there is any other helpful data which we can provide from our records or experience.

Sincerely,

W. SCOTT ALLAN,
Manager, Medical Services Division.

(1) Our Rehabilitation Centers in Boston and Chicago have both had considerable experience with foreign nationals who visited the centers. We have not had any experience with persons from foreign lands actually working in the centers. Listed below for each of the two centers are the numbers of such visitors over the last 3 years, the countries from which they came and a designation to show if they were physicians. All those not indicated as physicians may be assumed to be administrative personnel in rehabilitation or technical experts from industry, government or private associations.

Boston Rehabilitation Center

Number of foreign visitors: 163.

Countries represented: England, Chile, Iran, Canada, Mexico, Germany, Venezuela, Alaska, Norway, Ireland, Brazil, Sweden, Argentina, Indonesia, New Zealand, Africa, Haiti, Portugal, Hawaii, Switzerland, Peru, Australia, China, France, Formosa, Taiwan, Denmark, Austria, Italy, Japan, Philippines, Israel, Uruguay, Cuba, Jamaica, Yugoslavia.

Number of physicians: 12.

Chicago Rehabilitation Center

Number of foreign visitors: 40.

Countries represented: France, Finland, Iran, Egypt, Chile, Australia, Turkey, Norway, Sweden, Brazil, Austria, South Africa, Jamaica, Belgium, India, England, Japan, Germany.

Number of physicians: 6.

(2) Please refer to my letter of January 19 for comments which would substantially answer this question for both centers.

(3) Comments made by visitors to both centers regarding rehabilitation needs in their own countries and from our own general understanding of the problem would lead me to conclude that the challenge of rehabilitation in most countries, except for possibly the Scandinavian countries which perhaps are even further along the road of rehabilitation development than we are (the same would be true of Canada), is a terrific one both in terms of quantities of cases requiring rehabilitation and the broad range of illnesses, injuries and congenital conditions which are rife among their populations.

(4) As indicated in the accompanying letter, I would suggest that the United States Government undertake to strengthen two-way collaboration in rehabilitation research and therapy by increasing the scope of exchange visits of professional and other interested or active personnel, the sending of designated professional teams to countries requiring assistance in planning and establishing rehabilitation programs or facilities, and finally the exchange of published material in this field on a large scale. Any financial support which the United States Government might give, either directly through any of its branches, through the United Nations organizations or through private organizations such as the International Society for the Welfare of Cripples, to provide assistance in the development of rehabilitation programs and facilities abroad would be money well-spent. In the long run, it could come closer to initiating a respect and a confidence in our country and in democratic principles and ideas than many other of the so-called international "assistance" programs.

BAY STATE SOCIETY FOR THE CRIPPLED AND HANDICAPPED, INC.,
Worcester, Mass., June 1, 1959.

MY DEAR SENATOR HUMPHREY: Your letter addressed to Miss Ruth E. Curtis, director of the Bay State Rehabilitation Center of Western Massachusettts, has come to my attention as director of program for the Bay State Society for the Crippled and Handicapped, the statewide Easter Seal agency operating the Bay State Rehabilitation Center of Western Massachusetts.

I appreciate your desire to have comments from many rehabilitation programs in the United States and we are pleased with the interest the United States Government is taking to strengthen international cooperation in this field.

We have had many foreign visitors over the past few years. We are always pleased to have them see our program and to learn of the services available in their country. Our experiences would not be comparable to that of the leaders you have already contacted. Mr. Donald Wilson of the International Society for the Welfare of Cripples and Dr. Dean W. Roberts of the National Society for Crippled Children and Adults would give you more help than I can.

I do, however, want to congratulate you on your assignment as chairman of this subcommittee on worldwide health research.

Sincerely,

KATHLEEN SIBLEY, *Director of Program.*

DETROIT LEAGUE FOR THE HANDICAPPED, INC.,
Detroit, Mich., May 14, 1959.

SIR: In response to your letter of April 20 regarding foreign visitors to our center, I am pleased to submit the following answers to your questions:

1. We have had representatives from several fields—doctors, health departments, vocational rehabilitation workers, and students.

2. We enjoyed conversing with them as to methods and operations in other countries. Our staff was inspired by the knowledge they were seeking, and the feeling that they were helping, in a worldwide rehabilitation program.

3. In most cases, their social systems and economies were so much different that it will take government help and a tremendous amount of imagination to get a program started. The exception to this, of course, is Canada. This country will be able to adopt many of our methods and programs.

4. Continue the exchange of personnel as we have been doing. If possible, develop a team of specialists to set up a demonstration project in one of the underdeveloped countries to see what could be accomplished and continued after the demonstration and withdrawal of American funds.

Yours very truly,

RUSSELL G. ALBRECHT, *Executive Director.*

THE REHABILITATION INSTITUTE,
Kansas City, Mo., May 1, 1959.

DEAR SENATOR HUMPHREY: It was with pleasure that I received your letter concerning the question of further international cooperation in rehabilitation of the handicapped. This has been, naturally, a subject of interest to me, and I looked with a great deal of pleasure upon the Congress' decision to authorize a special study on worldwide health research, rehabilitation, and public assistance. I firmly believe that everything we do to assist and to cooperate on an international basis in the rehabilitation of disabled people will do as much or more to cement friendships over the world as any other program we might undertake.

As to the questions you asked, the Rehabilitation Institute has had a large number of foreign visitors sent to us by the State Department, by the Office of Vocational Rehabilitation, by Dr. Rusk, and others over the past several years. I do not have an exact record of the number, but they have included such specialists as physicians, physical and occupational therapists, social workers, educators, directors of programs in their countries, etc. They have come to us from Korea, Pakistan, Thailand, Germany, Poland, Egypt, Australia, New Zealand, Burma, India, Mexico, Brazil, Denmark, Puerto Rico, etc. Some of these have been merely sent for a one-day stay; others have stayed a week or more, studying our type of program and have visited, under our direction, other facilities in this area. This has been a challenging experience, both for our staff and for our visitors, I believe.

Since we are a voluntary agency, one of the most frequent comments that I have heard from the foreign visitors is their almost amazement at the voluntary effort that is put out in rehabilitation and other similar programs by American people. In so many of the foreign countries, most of the programs are entirely operated by government, and it's been an eye-opening experience for them to see how, in our country, many times, voluntary programs work with governmental programs for the welfare of our citizens. From comments of a number of those who were here, they intended to return to their country and, perhaps, do a little bit more in the development of voluntary efforts to assist programs in which they were concerned. Almost without exception, every foreign visitor has indicated his deep appreciation for the time and effort spent by staff and board members in helping them to understand our program and to give them information which might be useful to them in their home country. I have a feeling that the warmth generated by these visits will do much to foster understanding in their countries. One of the practices which we have tried to follow is to take foreign visitors, if at all possible, into our homes for a visit, dinner, and a chance to get to know them a little better and to have them get a feeling of what ordinary home life is in America. This, I think, has been rewarding to us because we have had a wonderful experience in learning to know these people better, and I am sure it must have been the same for them. Most of the comments from our visitors have been ones of appreciation for the State Department and other programs which have allowed them the opportunity to visit in this country.

The challenges ahead of certain of the foreign countries in rehabilitation is quite terrific, particularly in the war areas, where there were many civilians as well as servicemen injured, and their backlog of rehabilitation cases was quite staggering. They have great need, of course, for technical persons, for equipment, and for overall information in working with these people. In many countries, they are moving from a culture which was primarily agricultural to one in which they must have certain industrial development. For these countries, vocational training is of real importance in the rehabilitation field because

they will have to train disabled men and women to be able to participate in an industrial economy as opposed to what they had been brought up in, an agricultural one. Some of the visitors indicated that sufficient funds were not available in their countries to do a really adequate job, and it was at this point that I felt volunteer groups might be of real help to them in getting some of the buildings and equipment they were needing.

What the United States can do to continue the programs that are already under way and also to increase our cooperation with other countries is, of course, a very large and difficult question. I think the program of exchange—both in bringing foreign visitors to this country and, too, in some way, financing rehabilitation personnel to assist in other countries—should be continued and, perhaps, enlarged; but we must not forget that there are many skilled people in other countries who probably could bring knowledge to us. The basic purpose in rehabilitation is the return of disabled persons to a state of well-being, either to the point of being able to look after themselves or to participate in an occupational program, and the results are something that can be seen quite dramatically by anyone, and probably money spent in this program will pay great dividends because the people themselves will see the results. It is not something far distant from the people but something in which they can be a real part.

While my comments, I am sure, are not too significant, I do appreciate your allowing me to take part in this very worthwhile undertaking. I can but wish you and your committee every success in promoting worldwide cooperation in this great field. I would be very happy to receive the publication you mentioned on the international challenge of rehabilitation when it is prepared. If there are further specific questions which I have not covered and you would like to ask, feel free to write me at any time.

Very sincerely yours,

VIVIAN SHEPHERD, *Director.*

THE INDUSTRIAL HOME FOR THE BLIND,
Brooklyn, N.Y., May 6, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for your letter of April 20, 1959, and your invitation to me to give my opinion to your subcommittee on the questions which you submitted for my consideration.

Question 1: The Long Island Rehabilitation Center, a facility of the IHB in Brooklyn, New York, has had a great deal of experience with foreign nationals who have visited the center, and some experience with foreign nationals who have worked at the center. Generally speaking, since November of 1957, we have had approximately 40 such persons with us. For the most part, these visitors classified themselves as, or we were given to understand, that they were "rehabilitation specialists." The following countries were represented:

Chile	Korea	England
France	Mexico	Argentina
Bolivia	Puerto Rico	India
Israel	Ireland	Japan
Turkey	Germany	Poland
Yugoslavia	Australia	
Philippines	South Africa	

Question 2: In answer to this question, I would say that, as a group, they appeared most sincerely interested in the new techniques which they observed, and most of them saw the need for similar programs in their country. Many of them expressed the desire to stay for prolonged periods of time, rather than just a short visit. Many of them wanted to send others to see the program, but they appeared concerned over the language barrier. It appeared to us here, that, generally speaking, as a group they showed a great deal of interest, and as a group they saw a need for such a service in their own country. However, I am sorry to say that there were those who came inadequately prepared, appeared quite naive, and appeared not to have any real experience on which they could draw to make judgments or comparisons.

Question 3: It appears to me, from the comments of the visitors, that rehabilitation programs in various countries are either undeveloped or non-existent, and that there is a complete lack of trained personnel. I further believe from my conversations with many of these people, that a good deal is yet to be done as regards public acceptance and enlightenment in their countries, concerning rehabilitation programs.

Question 4: The United Nations and the United States, through fellowships, have brought foreign visitors here, which, in itself, is a positive effort. However, it appears to me that the programs which are set up for them while they are in this country are much too ambitious. These visitors seem to be on a continual merry-go-round, and always in a hurry in order to stay abreast of their schedule. They seem to do a good bit of traveling, and, as a result, see a great deal of the United States, but, as far as rehabilitation programs are concerned, they see merely bits and pieces, and probably rarely have an opportunity to learn any program intimately and in detail. I think this is a real shortcoming of our present program with foreign nationals. In addition, I would urge that additional scholarships for training be made available and also, that funds be made available for consultants from this country to go abroad to help develop rehabilitation personnel and programs in foreign countries. I am thinking here of consultants who are actual participants in rehabilitation center programs, and who can carry with them the experience of day to day work, and contact with handicapped persons.

I hope that the information which I have given you will be of some help to your committee, and again my sincere appreciation for the honor your committee has afforded me in allowing me this opportunity to give you my impressions.

Most sincerely yours,

HAROLD RICHTERMAN,
Director of Rehabilitation Services.

INSTITUTE FOR THE CRIPPLED AND DISABLED,
New York, N.Y., May 5, 1959.

DEAR SENATOR HUMPHREY: It is a pleasure to contribute information and suggestions in connection with the study your subcommittee is making related to international cooperation in rehabilitation of the handicapped. I, personally, am of the opinion that the United States as the world leader in this field can exert a force for better understanding among peoples of all nations through making this knowledge readily available to the disabled of all countries.

My views covering the four specific questions mentioned in your memorandum are as follows:

1. The Institute for the Crippled and Disabled has been providing organized training opportunities for many years to foreign professionals in these fields: physical medicine; physical and occupational therapy; social casework; vocational counseling; evaluation and special placement; clinical psychology; administration; prosthetic technician and orthetic technician. The number of trainees vary from year to year but since 1950 have totaled more than 250 individuals.

a. The geographical areas represented include most of Western Europe, the Eastern Mediterranean, South East Asia, South Korea, the Philippines, Central and South America, and Canada.

b. In addition to this formal training, we have had countless foreign visitors referred to us for brief tours and short term visits of a few days to several weeks by the United Nations, Federal agencies, the International Society for the Welfare of Cripples, etc. It is estimated that 1,500 to 2,000 foreign visitors have been seen in this program since 1950.

c. We have provided a valuable information service through the distribution by mail to interested foreigners of reprints of professional articles and answers to specific questions through correspondence.

d. Several films covering our program have been extremely popular. The film library of the ISWC has serviced prints for loan to foreign countries. The U.S. State Department and HEW have purchased prints. Copies have been sold to a number of foreign governments. Recently, Sweden purchased the rights to one film and substituted a Swedish language sound track.

2. The Institute's program is a rather unique one since it stresses the total evaluation of a disabled person with special emphasis on a thorough vocational evaluation and a review of the social and psychological situation as well as a check of physical status. We are in a position to follow through on recommended programs in our vocational training school and industrial workshop. Our large limb and brace manufacturing shop is also noteworthy among centers. In total, more than 5,000 disabled persons are served annually—all as outpatients.

a. The aspects of our program that seem to impress foreign visitors are:

(1) The ability to fully prepare the disabled person for a job through training and the emphasis given to placement.

(2) The limb and brace manufacturing techniques and the use of new materials, metals and component parts.

(3) The well organized and systematic handling of the large patient load by the professional and administrative staff.

b. Our emphasis on vocational and social adjustment services is often a revelation to foreign visitors who are too often oriented to the point of view that medical services are always the dominant requirement in rehabilitation.

c. There is an eagerness to obtain any and all of the published material available in spite of the fact that in many cases the inability to read English may limit its usefulness.

3. Based on visits made personally to rehabilitation facilities in Europe, Great Britain, Mexico and Turkey as well as personal contacts with many foreign visitors and judging from the trend in correspondence asking for specific information, I offer the following comments on this question:

a. Rehabilitation in the United States, which is well advanced in many sections of our country, may not be applicable to many foreign countries (especially those with limited industrial development) without considerable adaptation to local conditions.

b. The application of physical restoration services, including the provision of prosthetic and orthopedic appliances, is of great significance from a humanistic point of view and regardless of whether or not any job opportunities exist for those served by such services.

c. In particular, modern prosthetic services can be easily adapted to local conditions in most foreign countries. Skillful technicians can be trained and materials, tools and machinery can be adjusted to local limitations if a modest amount of importation of vital items can be assured.

d. Even in the more industrialized countries, it is known that a handicapped person who has acquired definite vocational skills has a much better chance of finding regular employment than one without such training. In the less industrialized countries, where skills are often at a premium, the trained handicapped person may often compete successfully with his ablebodied fellow worker. Unfortunately, this aspect of rehabilitation has not received as much attention as the medical phase.

e. Psychological and social services, which are receiving increased attention in this country as necessary parts of a comprehensive rehabilitation service, play little if any role in most foreign programs. With the slower pace and less complicated society abroad, the need for such services may be limited for some time to come.

f. There is a tendency for U.S.-trained foreigners upon their return home to move into positions of an administrative nature that often are not related to the specialty for which training has been given. There are also a number who remain in the United States to become U.S. citizens. This attrition is a serious matter that greatly reduces the effective development of better rehabilitation in many counries.

g. Finally, there is the great deviation between the standards of professional education in many foreign countries and those followed in this country. This not only results in poorly grounded foreign students who are ill-equipped to undertake study here but it also presents a problem when they return to their own country with a fund of knowledge not understood or fully accepted by their colleagues.

4. Specifically, a cooperative program embodying the following points would strengthen the extension of improved rehabilitation services on a global basis.

a. Only well equipped and well staffed training centers in the United States should be used for participation in the major parts of the proposed program. Sufficient financial support should be provided such centers to enable them to conduct a superior program.

b. Ample opportunity should be permitted U.S. personnel to visit foreign countries to obtain a firsthand knowledge of local conditions that would enable them to be more practical in dealing with foreign trainees.

c. Whenever possible, foreign personnel should be trained as a team so that they could share common experiences.

d. An assignment of U.S. teams to help train personnel and develop local services on the site in foreign countries should be encouraged.

e. Serious consideration should be given to the problem of foreign exchange in order that importation of rehabilitation equipment, machinery, tools, materials and supplies could be assured and not be hampered by import controls. As an example, current restrictions on imports to Turkey prevent the use of prefabricated components for the construction of prosthetic appliances.

f. Foreign architects and builders should be encouraged to visit modern rehabilitation center facilities in the United States or other advanced countries.

g. A basic need in most foreign countries is to update professional training and education. Curriculum studies should be encouraged on all levels in order to produce adequately prepared graduates for study abroad as well as eventually to create acceptable postgraduate training opportunities at home.

h. Foreign governments should be encouraged to establish a high level national planning committee on rehabilitation. Members of such groups should be given the opportunity to observe advanced programs in other countries.

i. Area and regional meetings should be held to discuss problems common to certain regions and possible solutions to such problems.

j. Research fellowships should be granted for specialties in any of the rehabilitation fields for study in any of the participating countries. This would not only marshal research resources but would also stimulate the development of research activity where none now exists.

I trust that these ideas may be of some value to you and your committee. Should you wish me to elaborate on any of these points, please feel free to call on me.

Sincerely,

W. C. GORTHY, *Director.*

STATEMENT ON INTERNATIONAL REHABILITATION EFFORTS OF THE INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION, NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER

By Howard A. Rusk, M.D.

1. During the past 10 years the Institute of Physical Medicine and Rehabilitation has had approximately 300 long-term (one to three years) trainees. These long-term trainees have come from: Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Burma, Canada, Chile, Colombia, Cuba, Denmark, Ecuador, Egypt, El Salvador, England, Finland, France, Germany, Greece, Guatemala, Haiti, Iceland, India, Iraq, Ireland, Italy, Israel, Japan, Korea, Mexico, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Peru, The Philippines, Portugal, South Africa, Spain, Sweden, Thailand, Turkey, Venezuela, and Yugoslavia. Of these, approximately half have been physicians and the other half physical therapists, occupational therapists, nurses and orthopedic appliance and limb makers. There have been a limited number of psychologists, rehabilitation counsellors and speech and hearing therapists.

In addition to the above long-term trainees, during the same period there have been approximately 1,000 physicians and co-professionals who have participated in training programs of shorter duration (one week to six months) and approximately 5,000 professional visitors from other countries who have made visits to the Institute of Physical Medicine and Rehabilitation and its affiliated training programs within the New York University-Bellevue Medical Center of one day or less duration.

* * * * * * *

In addition to having a large number of visits, many members of the staff of the Institute of Physical Medicine and Rehabilitation participate in a variety of activities in other countries designed to contribute to the international rehabilitation effort. Within the last few years members of the staff of the institute have participated in international medical meetings, national medical meetings, or have provided consultation services in Korea, Japan, The Philippines, New Zealand, Australia, Hong Kong, Thailand, Burma, India, Jordan, Lebanon, Turkey, Egypt, Greece, Italy, Austria, Switzerland, U.S.S.R., Poland, Finland, Sweden, Norway, Denmark, Germany, France, Belgium, Netherlands, Spain, Portugal, England, Ireland, Canada, Mexico, Cuba, Haiti, Colombia, Chile, and Venezuela.

2. Our experience with the foreign rehabilitation specialists who have visited or had training at the Institute of Physcal Medicine and Rehabilitation has been an extremely rewarding one in every way. Our own staff has gained much

professionally and technically from the time they have spent with us, and we have had most favorable comments from these foreign rehabilitation specialists during their period of training and visitation and after they return home. * * *

3. The opinion of the writer regarding the comments of rehabilitation needs in specific countries abroad is summarized on pages 6–10 of the statement of testimony before the Senate Committee on Labor and Public Welfare on the International Health and Medical Research Act of 1959, February 24, 1959.

4. The following are, in the opinion of the writer, fundamental points in strengthening two-way collaboration in rehabilitation research and therapy:

a. Careful evaluation of both the professional ability and English language competency of the trainee prior to his arrival in the United States.

b. Availability of either short-term full-time or long-term part-time courses in English language competency for trainees who do not have adequate English language competency upon their arrival.

c. The availability of a sufficient number of experienced staff persons to provide individual guidance and assistance both in the professional and nonprofessional problems of the trainee while he is in the United States.

d. Opportunities for trainees to participate in general cultural and educational activities during their stay in the United States.

e. Continuing contact with the trainee through the regular mailing of professional periodicals and through personal communication after he returns to his own country.

f. More careful advanced planning through organizations such as the International Society for the Welfare of Cripples, American Foundation for the Overseas Blind, American Physical Therapy Association, American Occupational Therapy Association for professional persons in rehabilitation who are making trips abroad to insure maximum effectiveness of their time and to insure that such visitors are not a burden to their foreign host because of inadequate planning.

ARTICLE ON APPRAISAL OF AMERICAN REHABILITATION TRAINING

Senator HUMPHREY. A very valuable supplement to the preceding memorandum was contained in an article published in "Archives of Physical Medicine and Rehabilitation," January 1959. The article was entitled "An Appraisal of American Training in Physical Medicine and Rehabilitation for Foreign Medical Personnel: Retrospect and Aftermath." The article was written by Louis P. Cajoleas, Ph.D., Daniel J. Feldman, M.D., and Howard A. Rusk, M.D.

The article follows:

AN APPRAISAL OF AMERICAN TRAINING IN PHYSICAL MEDICINE AND REHABILITATION FOR FOREIGN MEDICAL PERSONNEL: RETROSPECT AND AFTERMATH [22]

Louis P. Cajoleas, Ph. D.
Daniel J. Feldman, M.D.
and
Howard A. Rusk, M.D.
New York

Since the end of World War II the number of foreign physicians and other medical personnel studying and training in the United States has increased significantly. In 1956–57 there were 6,741 foreign physicians in training in American hospitals.[22a] Because of this trend for increasing numbers of foreign medical personnel to seek cross-cultural professional training, many questions have been raised concerning the values and outcomes of their American experience.

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[22] This pilot study of a small group of international medical trainees who received specialized training under the auspices of one American center suggests the need for additional research into the nature, problems, and outcomes of cross-cultural training for foreign medical personnel. It may be concluded that international trainees generally benefited from their professional training in the United States.

[22a] Open Doors 1957, Institute of International Education, New York, June 1957, p. 4.

The department of physical medicine and rehabilitation of the New York University-Bellevue Medical Center is one of the centers at which international trainees receive specialized training. The department has, in recent years, been receiving increasing requests for specialized training in physical medicine and rehabilitation from applicants in other countries. The department's International Training Program which provides fellowships for international trainees is dedicated to the dissemination of modern rehabilitation practices throughout the world. In view of this, and of the need for basic data on the cross-cultural experience of foreign medical personnel, it was considered useful to attempt to investigate the nature and values of such training for foreign personnel. This is a report of the findings of such a study.

The major purposes of this study were to determine the retrospective appraisal of the sojourn training experience of professional medical personnel from other lands and its aftermath. Training programs under the supervision of the department of physical medicine and rehabilitation, New York University-Bellevue Medical Center, were carried out at the Institute of Physical Medicine and Rehabilitation, Bellevue Hospital, Goldwater Memorial Hospital, and other associated regional affiliated hospitals. In addition to their various clinical programs, the trainees participated in lecture series, seminars, and field trips as a group. In the last two years covered in this report, these activities, together with an increasing cultural program, formed an important part of the training program.

In general the areas of concern in this study were:

1. Who were the trainees from abroad?
2. What ideas and practices derived from their period of training have they found to be especially valuable in their work back home?
3. What aspects of their training have they found to be of little value?
4. What problems did they encounter during their training in the United States?
5. What professional problems have they encountered upon their return home?
6. What were the professional positions and activities of trainees in their home countries at the time of this study (fall, 1957)?
7. What changes in personal attitudes have they experienced in regard to: (*a*) their own countries, (*b*) physical medicine and rehabilitation in their own countries, (*c*) physical medicine and rehabilitation in the United States, and (*d*) America and Americans?

The data for this study were obtained by means of a questionnaire. Sixty questionnaires were mailed to former international trainees and 27 replies (45 percent) were received. This report is based on an analysis of the returned questionnaires.

Who Were the Trainees from Abroad?

The respondents included 17 physicians and 10 co-professional workers (physical therapists, occupational therapists, prosthetists, nurses, and social workers). There were 17 men and 10 women. Twenty countries (from many areas of the world) were represented. The population of this study was in training in the department sometime during the period 1950–57. The average time spent in training was 10.8 months for physicians and 7.5 months for co-professionals. Half of the physicians spent from 10 to 25 months in training, and half spent from 6 to 10 months. Half of the co-professionals spent from 6 to 24 months in training, and half spent from 2 to 6 months in training.

What Ideas and Practices from Their Period of Training Have Former Trainees Found to Be Especially Valuable in Their Work Back Home?

Generally, it was found that each respondent was selective in reporting those ideas and practices which he found especially valuable. It was possible, however, to classify the comments into three major categories. These, given in descending order of frequency of mention, were:

1. A team approach to rehabilitation.
2. The concept of total care of the patient.
3. Technical organization of a complete rehabilitation program.

Respondents referred to the uniqueness of these ideas. The coordinated contributions of the various specialties in rehabilitation and the attention paid to the medical, psychological, and social aspects of the rehabilitation of the individual patient were felt to be essential to the organization of a complete rehabilitation program.

What Aspects of Their Training Have Former Trainees Found to Be of Little Value?

The majority of respondents either left this item on the questionnaire unanswered or said that there were no aspects of little value. Five physicians and four co-professionals (33 percent) did mention certain aspects which, in terms of the nature of their responsibilities at the time of filling out the questionnaire, did not seem valuable to them. Among them were the following: repetition of some experiences because of previous training elsewhere, lack of needed training in some areas, and lack of opportunity to use some of the training experience because of the nature of their present responsibilities. Such comments suggest that for some individuals special training needs may not have been adequately covered in planning their programs of study. However, considering the varied backgrounds in medical education and training of foreign personnel, it would seem that some repetition is inevitable and, perhaps, valuable. The comments also indicate that, because of special situations in which some returned trainees find themselves, competence in certain areas requires additional self-training. This cannot be completely anticipated and provided for in a training program, but it is expected that the experience gained will make the trainee capable of such self-training.

What Problems Were Encountered During Their Training in the United States?

Five physicians and three co-professionals said that they had no problems. The remaining twelve physicians and seven co-professionals (63 per cent) named a variety of problems from the very general, "U.S.A. is rich and well-developed country. Turkey is not yet. I suppose this is enough to explain all kinds of problems," to the very specific and laconic, "No friends." In general, the problems encountered during the period of training were practical problems of adjustment. The major difficulties mentioned were problems of language, inadequate finances, finding adequate and inexpensive living accommodations, and loneliness.

It is interesting to note that none of the respondents referred to deeper problems of cross-cultural adjustment, such as have been reported by "foreign students" in other studies. There were, for example, no reference to conflicts in values, customs, or loyalties. The absence of such comments may suggest that postgraduate medical trainees, who are as a rule older than most foreign students, partake of an experience devoted almost, if not exclusively, to the development of specific technical knowledge and skills. The training schedules of such trainees, once they have been worked out, assure a relatively cloistered sojourn experience. That is, their specialized training within a more or less familiar hospital environment cushions them against "cultural shock" and deep involvement in the life of the host culture. Furthermore, foreign postdoctoral medical trainees are on a more equal footing with their American associates than are academic students in colleges and universities. These considerations suggest an easier sojourn adjustment, but, at the same time, one which may not require as deep a personal involvement in the life of the host culture,

What Professional Problems Were Encountered Upon Their Return Home?

It can be assumed that the success of American training is measured both by the returnee and by his colleagues by what happens after return home. Three measures of successful achievement upon return home used in this study were the professional problems encountered after return home, the professional positions attained, and the degree of satisfaction with professional positions and responsibilities. The latter two will be discussed in the next section.

Of the 27 respondents, 18 (66 per cent) reported encountering professional problems back home. The problems most often mentioned were as follows, given in descending order of frequency.

1. Lack of team work among colleagues.
2. Lack of success in changing traditional attitudes toward rehabilitation.
3. Lack of sufficient funds.
4. Lack of trained personnel.

Some of the comments made by respondents are given below:

"Social aspects and team approach were not very well accepted, not only by colleagues, but also by the personnel of my department who could not understand how the highest authority could discuss problems with people dependent upon him."

"When I proposed the need for staff conferences everyone in the clinic objected except the head of the clinic and one other doctor who had been at the Institute of Physical Medicine and Rehabilitation for two months, because of lack of understanding of the idea."

"Nobody wants to be told what must be done for a patient and this is more true when nobody knows rehabilitation and when they have not seen its results. Here the big problem is to get rid of old ideas and to convince people that there are many things more to do for the patients."

*"People from ministries and directors of state hospitals are rather often indifferent, but criticisms, if not hostility, are often to be found from physicians and orthopedists * * * and politicians!"*

"Lack of special rehabilitation wards at the hospital. Because of lack of beds patients must leave the hospital too early for complete rehabilitation. Lack of occupational therapists."

"Educational problems: people need more teaching about rehabilitation. Economic problems: rehabilitation is very expensive. Team work: we do not have yet sufficient teams of technicians like physical therapists, occupational therapists, brace makers, etc."

The nature of the problems encountered suggests varying degrees of lack of success on the part of the returned trainee to bring about social change with particular reference to attitudes and practices in rehabilitation, increasing financial support, and securing necessary trained personnel. This finding suggests a need for American program planners and foreign trainees to examine the roles of returned trainees in terms of social innovation and change. It suggests further that some knowledge of the process of social change and of problems returnees encounter would have been valuable to about two-thirds of this group.

Of the total respondents, one physician and three co-professionals said they had no problems. Two physicians and three co-professionals left the item unanswered on the questionnaire. Thus, nine persons either did not have, did not admit, or did not recognize any problems in introducing new ideas and practices into their professional work back home.

What Were the Professional Positions and Activities of Former Trainees at the Time of This Study (fall, 1957)?

Almost all respondents held responsible professional positions back home. Of the seventeen physicians, seven reported that they were chiefs or heads of their respective hospital and/or university departments of physical medicine and rehabilitation. Four were staff physicians. One was a university lecturer in orthopedic surgery and consultant at two hospitals. One was minister of health and social affairs in his country; another was national coordinator (director) of rehabilitation. One said that he was in private practice but also received referrals from a government agency. One described himself as a medical-social consultant and professional writer for medical newspapers and periodicals.

Of the ten co-professionals, four reported supervisory positions in hospitals or rehabilitation centers. Two were staff occupational therapists in hospitals. One was an instructor and nurse in a hospital. One was a United Nations expert in occupational therapy working in India under the U.N. Technical Assistance Administration. One man was owner of a brace shop, and one woman was professionally unemployed by choice (housewife).

Of the twenty-seven respondents, eighteen were concerned with teaching. Teaching responsibilities included most categories of co-professional personnel, graduate and undergraduate, as well as the teaching of physicians at the medical student, intern, resident, and practicing physician level. Fourteen respondents said that their work was connected with a governmental agency. Fourteen said that they had private consultations. It may be concluded that the majority of former trainees were in professional positions which allowed them to fulfill the major goal of the International Training Program namely: "the dissemination of modern rehabilitation practices throughout the world." The degree to which this goal is achieved would seem to be influenced in some measure by the nature of the problems discussed in the preceding section.

Respondents were asked to indicate the degree of satisfaction or dissatisfaction which they realized with respect to their professional positions. Ten reported that they were "definitely satisfied," thirteen were "more satisfied than dissatisfied," two were "more dissatisfied than satisfied," and one was "definitely dissatisfied."

In the comments with regard to reasons for satisfaction, the following were noted in descending order of frequency:

1. Realizing successful achievement.
2. Feeling that work is socially useful.
3. Enjoying cooperation of colleagues and of patients.
4. Finding variety and challenge in responsibilities.
5. Gaining acceptance of new ideas.
6. Doing the kind of work for which trained.
7. Realizing self-advancement.

In the comments indicating reasons for dissatisfaction, the following were emphasized:

1. Lack of trained personnel.
2. Lack of equipment.
3. Lack of cooperation, understanding, and support.

Changes in Attitudes Toward Physical Medicine and Rehabilitation

A variety of attitudes was expressed by respondents concerning their view of physical medicine and rehabilitation in the United States before coming here. About half said they knew little or nothing about this phase of medicine. Others said that they had knowledge of physical medicine and rehabilitation in the United States and that they came with high expectations of the opportunities available to them for training.

All respondents reported definite awareness of changes in their outlook upon physical medicine and rehabilitation in their own countries as a result of their training sojourn in the United States. In reviewing the comments it was noted that some individuals stated that they knew little about this specialization before coming to the United States. Others said that it did not exist in their countries. Others, particularly those from Europe, said that before coming to the United States they thought that physiotherapy was progressing in their countries, but that there was confusion as to the technics used and their value, and that there was little emphasis on rehabilitation per se.

During the period of training the foreign visitors tended to make comparisons between the level of development of physical medicine and rehabilitation in the United States and in their own countries. In all instances their own countries were placed by respondents at a comparatively lower level. Some of the comments made in this connection are given below.

"*I learned the techniques of Physical Medicine and Rehabilitation and found them interesting, fascinating, and terribly important. I realized the utter lack of them in my country.*"

"*I realized that rehabilitation was not developed and organized enough in my country.*"

"*I could not see how we could do a job like yours.*"

"*I realized how far behind we really were in this branch of medicine, few trainees, few facilities.*"

At the time of filling out the questionnaire all respondents reported evidence of advances in physical medicine and rehabilitation in their own countries as well as their personal involvement in specific developments. These statements indicated enthusiasm and satisfaction coupled with some discouragement in view of the progress they felt still needed to be made. This discouragement resulted, they reported, from the lack of support from colleagues and government in some places, the lack of funds and of trained personnel elsewhere, and general difficulties experienced in introducing new methods and ideas.

Two respondents reported no change concerning their view of physical medicine and rehabilitation in their own countries. One person left this item unanswered.

During their training period as well as at the time of filling out the questionnaire, respondents indicated that they understood more clearly the value not only of physical medicine but especially of rehabilitation. They felt generally that the United States had made great progress and was the leading country in this aspect of medicine, and that the facilities for training were of high quality.

Changes in Attitudes Toward America and Americans

All respondents reported changes in their attitudes toward the United States and toward Americans. In all but one respondent, attitudes became more favorable toward the United States and its people both during and after the sojourn abroad. A physician from Chile, in addition to his favorable comments, also

reported mixed feelings. He commented that although Americans were "nice people, they lack a spiritual way of life; in many groups there is great interest in getting money."

All respondents generally reported that before coming to the United States they lacked knowledge of America. In some instances statements suggested certain curiosity mixed with some suspicion and fear of the role of the United States in international affairs, and a feeling that Americans were "cold" and preoccupied with their own interests and with making money.

Respondents reported that during the period of sojourn they came to have a more favorable opinion of the United States and its citizens, to realize the vast size of the country, to understand the variety of peoples who are known as Americans, and to see the commonalities that exist everywhere in spite of cultural differences.

At the time of filling out the questionnaire the respondents reported a better understanding of America and Americans. Some referred to the United States as a political entity and said that they understood it more clearly and tended to agree with its role in the world. All respondents referred to the people who were described as friendly, honorable, hard workers, sincere, responsible, good organizers, gentle, and kind. Five respondents said that they would like to visit the United States again and two of these said they would like to settle in the United States permanently. One respondent reported that he married an American who returned with him to his country.

Changes in Attitudes Toward Country of Origin

Respondents reported that they learned to see their respective countries in a new light while they were in the United States and since returning home. Eight, however, stated that there was no change in their favorable feelings toward their homeland. Typical of these comments was one by an Italian physician: "Happy and proud of being Italian before [going to U.S.] while in U.S. and now." On the other hand, while the rest reported better understanding of and greater loyalty to their home countries as a result of the cross-cultural experience, eight of these also reported certain dissatisfactions with aspects of the home culture. Some of these critical comments are included below.

"I was very dissatisfied with our socialist government which restrains all private initiative. This discontent was tremendously increased during and after my stay in the U.S. I should like to have your freedom to act on your own responsibility. I hate our difference in station even more after my stay in U.S."

"The worst problem is the economic situation and the lack of responsibilities in many persons."

"I looked at my country as an underdeveloped one with many problems due to lack of education and low standard of living."

It is interesting to note that six returned trainees, as mentioned above, referred to their hope or desire to return to the United States either for additional training or to establish permanent residence. The pertinent comments, five by physicians, are noted as follows:

"Should I leave my country I would like to live in the States." (Italy.)

"I would like to visit America again as soon as possible. I would like to visit your Institute again to see the progress of the last seven years." (Austria.)

"I have one big wish—to return together with my wife who is a nurse to the U.S. and resume my studies there if possible, especially if I am not able to carry out my specialization in this country." (Denmark.)

"I dream to go back to U.S.A. in a few years to find out how far ahead they have gone in physical medicine and rehabilitation." (Republic of Philippines.)

"I and my family would like to go back to the U.S.A. and settle there perhaps one day." (Union of South Africa.)

"I like Americans very much and would enjoy very much returning again." (Belgium.)

Such comments suggest either desire to observe progress in rehabilitation and/or to undertake further specialized training or, especially in two cases, alienation from the home country and the desire to emigrate.

Two respondents said that they developed a broader international outlook.

"Besides my own medical work, I think that we have a responsibility in pushing up our country as we can, to encourage what is good and to improve what is bad. We cannot live in an island. We have to live all together in the world." (Chile.)

"I like my country but realize its place in an international world and not only as a Belgian national." (Belgium.)

Comment

It may be concluded that international trainees generally benefited from their sojourn professional training in the United States. In general they attained important and satisfying professional positions back home, but also experienced problems in introducing new ideas and practices into their professional work. These problems seem to have been due in large measure to the resistance to change encountered in the home situation. They suggest the desirability and value of providing, for foreign trainees, some basic knowledge of their roles as social innovators upon return home and of the process of social change.

Generally more favorable attitudes seem to have developed toward the United States and its citizens, toward the home country, and toward physical medicine and rehabilitation, the specialty of their choice.

This pilot study of a small group of international medical trainees who received specialized training under the auspices of one American center suggests the need for additional research into the nature, problems, and outcomes of cross-cultural training for foreign medical personnel.

THE WINIFRED MASTERSON BURKE RELIEF FOUNDATION,
White Plains, N.Y., August 4, 1959.

DEAR SENATOR HUMPHREY:

* * * * * * *

1. We have had approximately eight foreign nationals who have worked at the Burke Foundation Rehabilitation Center. These physicians were training in the field of physical medicine and rehabilitation and geriatrics. They came from Greece, Germany, Siam, Austria, Guatemala, and Ecuador. Many transient visitors from countries all over the world have visited for a few days and have usually been in the medical or paramedical field.

2. Our experience with foreign rehabilitation specialists has been pleasant and mutually cooperative, and their reactions have usually been one of interest and desire to duplicate these activities in their own countries.

3. The concept of rehabilitation indicating concern for the individual regardless of the extent of his limitations seems to interest them keenly and reflects for them part of our own American sense of individual freedom and worth. It expresses to them through the means of medical rehabilitation our total concern as a nation with the welfare of all people.

4. The U.S. Government should strengthen two-way collaboration in rehabilitation research and therapy by providing means of communication and interchange of research ideas and techniques. This can be done by financing the training of U.S. physicians in foreign countries and of foreign medical personnel in the United States. Our own institution would be most happy to cooperate in making our facilities available for training purposes or teaching demonstrations.

I think that it is particularly important to stress with foreign physicians that rehabilitation programs can be established not only for neurological and orthopedic disabilities but for all types of illnesses such as heart disabilities which leave residual disability.

Sincerely yours,

EDWARD J. LORENZE, M.D., *Medical Director.*

RANSOMVILLE MEDICAL GROUP,
Ransomville, N.Y., May 31, 1959.

DEAR SIR:

* * * * * * *

I would like to outline briefly the program which we have at Ransomville General Hospital, Ransomville, N.Y. This is a 135-bed hospital devoted partly to acutely ill and partly to long-term and chronic illness patients. The patients come from various parts of western New York. This hospital is located close to the University of Buffalo School of Medicine, Niagara Falls, and Lockport. The hospital is designed to take care of not only medical, surgical, obstetrical, and pediatric problems but also rehabilitation problems and long-term patient care. I feel that this type of hospital, situated in a small com-

munity, could be viewed as a reality in any large as well as small country throughout the world. Financially, it would fit the health budget of most small nations. In addition to the medical and surgical services, we have occupational therapy, physical therapy, speech therapy, recreational therapy, spiritual guidance and in a very short time will expand with an addition of social services and vocational rehabilitation.

I feel that foreign students coming to large university hospitals could learn basic philosophies and sciences in these large university hospitals and later be sent to a hospital of this sort where they could be expected to take care of patients who required both medical and paramedical services.

I do not see any reason why a program of this sort could not be easily incorporated as part of a postgraduate course at the University of Buffalo School of Medicine or be linked with the teaching services of the U.S. Public Health Service or through the local New York State Department of Health.

If this type of project would fit in an overall picture of international health studies, we would be only too glad to participate. We would like to have you or one of your designees view our institution to see the type of work and type of services that we render to patients of all ages.

Sincerely yours,

H. V. MORELEWICZ, M.D.,
Chief, Department of Physical Medicine; Assistant Professor, Department of Therapeutics, University of Buffalo, School of Medicine.

REHABILITATION SERVICES, INC.,
Binghamton, N. Y., May 8, 1959.

DEAR SENATOR HUMPHREY: It is with considerable pleasure and honor that I answer your recent correspondence regarding your health study.

I feel that there is no better way to national understanding and a permanent peace than through rehabilitation. It gives meaning to our living and unselfishly demonstrates human understanding. It can be a common language to all nations.

Since you are mainly interested in my "reaction" to the question contained in your letter, let me state that my first response was that before international understanding and cooperation can be secured, this same goal must be accomplished on a national level.

Our geographical location is not conducive to visitations by foreign nationals, but they are always welcome. I am enclosing a brochure prepared by us for our recent Open House and Dedication. We are proud of our services, and I am certain that our brochure will show you why. The Honorable Howard Robison has visited us, and I am sure he would be happy to tell you about our center.

As industry becomes more and more cognizant of the opportunities in employing the handicapped and the use of sheltered workshops for some of their production, I feel that the handicapped themselves will prove the values and place of rehabilitation in our society.

Let me congratulate you and your committee for the work you are doing. Also, if we can be of further assistance, do not hesitate to write or come to our facilities for a visitation.

Sincerely yours,

WARD A. MERRELL, *Administrator.*

ROCHESTER REHABILITATION CENTER, INC.,
Rochester, N. Y., May 11, 1959.

DEAR SENATOR HUMPHREY: This is to acknowledge the receipt of your letter, dated April 20, asking for my reaction to the question: "What should the United States Government do in order to secure and encourage further international cooperation in rehabilitation of the handicapped?"

It is my belief that international cooperation is best secured through a ready exchange of information and training between countries. If we, in the United States, can provide the necessary training for our foreign coworkers in this field, they do return to their homelands better equipped to handle some of the rehabilitation problems. We, in the United States, also could benefit from the progress made elsewhere and I do believe that an exchange system of doctors, therapists

and prosthetists, vocational counselors, and other related personnel is one way to promote this whole program.

We have had visitors at the Rochester Rehabilitation Center from England, Denmark, South Africa, and China who have been interested in seeing how a community of this size has tried to meet the problem. Sometimes our large well-known rehabilitation institutions are the ones visited and it is difficult for the individual to relate this overwhelming type of program to his smaller community. Visits to a variety of programs in this country for short duration might be as beneficial as a longer visit in one institution.

In visiting in the Scandinavian countries, I personally was impressed with their philosophy and the progress they had made in the field of rehabilitation. It would seem to me that sometimes we in the field could learn a great deal on simplification that we find abroad as contrasted to some of our more complicated equipment and gadgets.

These are my personal views on the subject and do not necessarily represent the thinking of the Board of Directors of the Rochester Rehabilitation Center.

Very truly yours,

FRANCES HELMIG, *Director.*

NEW YORK STATE REHABILITATION HOSPITAL,
West Haverstraw, N.Y., May 22, 1959.

DEAR SENATOR HUMPHREY: Thank you for the opportunity of expression on the subject of international cooperation in rehabilitation. My seemingly congenital interest in international fellowship has been heightened by limited travel abroad and by association with many foreign nationals visiting the United States for advanced professional observation and training. Many of our senior staff members have collaborated in this reply, as have some of our foreign students.

Your questions will be answered in your sequence.

1. Our visitors and trainees have been mostly physical therapists, occupational therapists, physicians, and nurses, in the order given, with insignificant numbers representing the other professional disciplines employed in comprehensive rehabilitation.

The following 34 countries were represented in 1958: Argentina, Belgium, Bolivia*, Brazil*, Canada*, Chile*, Colombia, Denmark*, England*, Finland, France*, Germany, Greece*, Haiti*, India*, Iran, Ireland*, Israel, Italy, Japan, Korea*, Mexico, Netherlands, Norway, Pakistan, Peru*, Philippines*, Poland, Spain*, Sweden*, Switzerland, Uruguay*, Venezuela, West Indian Federation. There is no count of the innumerable casual visitors; but 28 persons representing 17 countries marked with an asterisk spent an average of over 3 months at the rehabilitation hospital in 1958, the range being one week to one year. Of the 28, there were physicians, 11 physical therapists, 5 occupational therapists, and one graduate nurse.

2. In most cases the experience has been mutually rewarding both professionally and culturally. Although some succeeded despite these handicaps, the failures can be attributed largely to language difficulty, less so to poor professional preparation, and least to personal maladjustment such as homesickness or lack of interest.

3. The most striking reactions of our visitors have been surprise at the intensity of our program; at the emphasis upon the "total" individual; at the position of equality and respect in which the nonmedical professional personnel are held; and especially the effort we put into the most severely disabled patients.

The challenge in foreign lands is thus philosophical and economic. The needs are qualitatively similar to ours in terms of disabilities, but the approach to meeting the needs is an individual equation. Our experience has been too narrow to attempt to discuss specific lands.

4. What, then, is recommended? The United States should take the initiative in the organization of an international clearinghouse, representative of all interested countries, of all the professional disciplines concerned with comprehensive rehabilitation, and of existing agencies meeting standards, with a fourfold program: services for patients, professional education, public education, and research. These areas are too interdependent to neglect any one of them. No proposals are herein made for the administration of this ambitious project or for its financing.

The missions of this "clearinghouse" would include:

(a) The development in each country of a model center where the fourfold purpose can be carried out nationally. Until each country has its own center, existing centers should serve perhaps the regional needs, at least in proportion to international funding.

(b) The establishment of qualifications for both "students" and "teachers" in the international educational phase, with consideration to proficiency in the language and culture of the other as well as to professional competence.

(c) The maintenance of an active "fraternity" of both "students" and "teachers," perhaps on a regional basis, for maintenance of guidance and mutual cooperation.

(d) Inasmuch as rehabilitation necessitates an interaction of multiple professions, "students" and "teachers" should be organized in multidisciplinary teams.

(e) A planning body for research to avoid duplication of effort and assure rapid dissemination of new knowledge.

The opinions expressed, obviously, do not necessarily reflect those of the New York State Department of Health. They may be quoted. The rehabilitation hospital will be honored to continue its participation in the international training program and to make every effort to improve and enlarge it. We shall cooperate with your subcommitee in every possible way.

I wish you and your associates on the subcommittee every success in this wonderful project.

Sincerely yours,

SEYMOUR S. BLUESTONE, M.D., *Director.*

THE REHABILITATION CENTER OF SUMMIT COUNTY, INC.,
Akron, Ohio, April 27, 1959.

DEAR SENATOR HUMPHREY: * * * Internationally speaking, it would seem to me that there are three areas in which the U.S.Government could and should participate relative to the broad field of rehabilitation:

1. Exchange of information on a postgraduate medical level;

2. Foster rehabilitation philosophy and facilities in countries not having rehabilitation;

3. Expand clinical research to include medical and vocational research in those countries referred to in 2.

Relative to suggestion number 1 above, there is no doubt that by bilateral exchange we can learn from others and they can learn from us. The techniques of vocational rehabilitation as it pertains to industrial accidents are highly developed in Canada and England; likewise, Germany has had long experience in rehabilitation of amputees; the Scandinavian countries excel in medical aspects of rehabilitation. The United States is outstanding in techniques of self-care for the handicapped, and has made long strides in prosthetic research under the National Research Council.

Because I believe rehabilitation is for the common man in a small community as well as large city, my suggestion number 1 includes the thought that leaders of smaller centers in the United States may well profit from an opportunity to study with and observe rehabilitation services in other countries as mentioned. On the other hand, foreign personnel interested in rehabilitation may wish to spend a period of three months in rehabilitation centers in small communities. While large, specialized centers provide a certain opportunity for instruction in the more complicated cases, the everyday, medical rehabilitation problems which arise in areas having a smaller population may also be of interest to foreign observers.

Through cooperation with the Office of Vocational Rehabilitation we were privileged to have a Greek girl, physical therapist, work and observe in our rehabilitation center. The center in Athens from which she came was apparently similar to ours. Because our patients were the garden variety of medical rehabilitation cases, she seemed extremely interested in our techniques of management of these patients. This grassroots approach also makes for an informal, more sincere bilateral understanding.

By way of amplification of suggestion number 2 above, rehabilitation is a twentieth century result of advanced medical care, intricate surgical techniques, mechanization, consequence of military conflicts. Rehabilitation makes good medical care better. It must therefore be established upon good medical practice; it does not complement nineteenth century medical practice.

Since no one country has a corner on rehabilitation, it is my feeling that the establishment of rehabilitation services in countries not now providing rehabilitation may best be done by an amalgamation of ideas from representatives of several countries which presently have outstanding programs.

Suggestion number 3 above: research relative to rehabilitation on the international scene is primarily clinical research in contrast to basic research; it would be factfinding, developmental and demonstration in character. There must be a higher percentage of disability in African and Asian countries due to congenital deformity and disease. What diseases? What techniques in rehabilitation will serve them best?

I trust that these comments will be helpful to your committee. You may quote from any of these remarks.

Respectfully yours,

KEITH C. KEELER, *M.D., Director.*

PHILADELPHIA GENERAL HOSPITAL,
Philadelphia, Pa., May 18, 1959.

DEAR SIR: In reply to your inquiry concerning international cooperation in rehabilitation of the handicapped, I would like to state that our rehabilitation center at the Philadelphia General Hospital has been visited by representatives from the following countries:

Argentina	Germany	Nigeria
Belgium	Holland	Norway
Bolivia	India	Pakistan
Brazil	Ireland	Rome
Canada	Israel	Scotland
Cuba	Japan	South Africa
Denmark	Jerusalem	South Australia
England	Mexico	Sweden
France	New Zealand	Turkey

The professional status of these visitors varied: physicians preparing to set up programs in their own countries, physical therapists, occupational therapists, psychologists, social service workers, educational and recreational workers.

Our experience with these visitors has been, how greatly interested they are in their work and how eager to learn new procedures and techniques in this field. They were amazed at the size and content of our center and quite interested in the program.

As you know, every area is different, and the needs vary as much. I would suggest that representatives from this country be sent to the foreign countries. The purpose of this type program is that "on the scene" one can survey the needs, survey the present facilities, determine whether present facilities are adequate, need expanding, or new facilities developed.

It is rather difficult to advise someone without having all the available data, and a visual picture is more concrete to work with.

Insofar as two-way collaboration is concerned in rehabilitation research and therapy, I believe this can be accomplished by the above program.

Sincerely yours,

ALBERT A. MARTUCCI, M.D.,
Chief, Department of Physical Medicine and Rehabilitation.

WOODROW WILSON REHABILITATION CENTER,
Fisherville, Va., May 1, 1959.

DEAR SIR:

* * * * * * * *

The Woodrow Wilson Rehabilitation Center has had many foreign guests for both short- and long-term visits. These visits generally range from a few days to several months. I would estimate the total number of foreign nationals who have visited the center to be around 250. These represent 48 different countries—10 from Central and South America; 8 from Asiatic countries and islands; the balance from European countries. Mainly, they have been in the fields of medicine, social work, and rehabilitation.

* * * * * * *

Much has been said about the responsibility of the United States for leadership among the various nations of the world. Probably this challenge comes to a very few nations and a great deal depends upon how we meet it. Since rehabilitation touches the people so closely, it offers one of the best opportunities for us to demonstrate our concern for and interest in other people.

I have been impressed with the exchange program for personnel in the field of education. There have been several teachers from this area who have spent a year abroad, replacing the teachers who came to this country. There have also been several high school students living in homes in this area who were here under the exchange program. I believe the understanding our people gain from having an opportunity to know people from other countries and give them a chance to understand our motives and aims has done much to improve relations. I, personally, have gained much understanding from the foreign guests who have been here and in some instances obtained a thoroughly different concept of the way people live and their aspirations and objectives. I have been impressed with the fact that so often they are the same as ours in this country. If a similar exchange program for rehabilitation workers in the various countries could be worked out, I feel that it would go a long way toward developing collaboration and exchange of information and "know how." This would also help us to help them find ways within their own limitations to solve their own problems.

Sincerely yours,

FRANK O. BIRDSALL, *Supervisor.*

DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION,
MEDICAL COLLEGE OF VIRGINIA,
Richmond, Va., June 1, 1959.

DEAR SENATOR HUMPHREY: Thank you for your personal letter inviting recommendations on methods for stimulating international interest and concern regarding the rehabilitation of disabled persons.

* * * * * * *

What should the United States Government do in order to secure and encourage further international cooperation in rehabilitation of the handicapped?

I fully support the thesis that long-term illness, handicapping disability and chronic disease is a matter of universal interest and concern. The scope and area of attention must vary from nation to nation depending on what is recognized as a national pressing problem. In nations with less advanced medical resources the focus is continuing on infectious disorders, and in European nations, certainly, they are as aware or even more aware of chronic disease and disability than we are in the United States. Regardless, it has been my observation that visitors from other nations coming to our institution quickly comprehend the importance and need for rehabilitation facilities and services. Mutual understanding and interest is easily attained when care and management of the disabled is studied by groups from various nations. Language barriers and heritage differences are yielded quickly. Certainly extension of thoroughly planned and clearly defined research and care planning would open most unusual avenues in developing mutual understanding between nations. Because of the highly varied and broad nature of rehabilitation programs for persons with long-term illness and physical disabilities, it is evident that a "broad side" approach to stimulating international activities, study, and research could result only in vague idealistic talk and little realistic advance in knowledge. This would result in criticism and ill will. I believe it is apparent that it would be wise to select areas of specific interest for a trial experiment in seeking international cooperation. It is suggested that the National Academy of Sciences-National Research Council be requested to survey the work of the active committees in the medical science division, and make recommendations regarding the specific areas related to medical and vocational rehabilitation that are ready to proceed with forceful programs to stimulate international interest and cooperative efforts.

As you perhaps know, the National Academy of Sciences-National Research Council is a private nonprofit organization of scientists dedicated to the furtherance of science and its use for the general welfare. The academy was established in 1863 under a congressional charter signed by President Lincoln. Empowered to provide all activities to academies of science, it was also required by its charter to act as an adviser to the Federal Government in scientific matters. This provision accounts for the close ties that have always existed be-

tween the academy and the Government without the academy being a Governmental agency.

The National Research Council was established by the academy in 1916 at the request of President Wilson to enable scientists generally to associate their efforts with those of the limited membership of the academy in service to the Nation, to society, and to science at home and abroad.

As an example, I call to your attention the work of the Prosthetics Research Board of the National Academy of Sciences-National Research Council. This board had its beginning in 1945 as the Committee on Prosthetic Devices. During the ensuing years many startling advances have been made in the development of artificial limbs for upper and lower extremities. Through the activities of the Committee on Prosthetic Research and Development and the Committee on Children's Prosthetic Problems, much fundamental information regarding the biomechanics of the extremities in the normal and pathological state has been studied thoroughly. Devices, techniques, methods of training and manufacturing, and prescribing of artificial limbs have been developed in a most unusual manner. As a result of interest stimulated by the Prosthetics Research Board two major educational undertakings have been instituted and a third is in the process of formation. In March 1958, Brig. Gen. F. S. Strong, Jr., Chairman of the Prosthetics Research Board, thoughtfully decided to create the Committee on Prosthetic Education and Information to further develop methods for release of information on prosthetic devices and techniques for the public, educational institutions, and interested organizations. Dr. Alfred I. Shands, director of the DuPont Nemours Hospital, Wilmington, Del., was appointed as chairman of the committee. The first meeting of the committee was held on July 1, 1958, and from then until May 1, 1959, it has been highly active in establishing liaison and/or working relationships with the following organizations:

The American Academy of Orthopedic Surgery
The American Academy of Physical Medicine and Rehabilitation
The American Congress of Physical Medicine and Rehabilitation
The National Society for Crippled Children and Adults
The Orthopedic Appliance and Limb Manufacturer's Association and its American Board for Certificatiton of Orthetics and Prosthetics and its Committee on Advances and Prosthetics

The Committee on Prosthetic Education and Information has also established contact with:

The National Society for the Welfare of Cripples
The President's Committee for Employment of Physically Handicapped
The American Physical Therapy Association
The American Occupational Therapy Association
The American Academy of General Practice
The Department of Defense (Medical Education for National Defense Program)

In addition, the committee has been cooperating with the organizations listed above in communicating with orthopedic surgeons and physiatrists throughout the country who have indicated their interest and desire to support the program of the committee. The committee has conducted a survey of clinics throughout the United States through the medium of physician graduates from the prosthetics schools. Another survey was made at the request of this committee by the Committee on Advances in Prosthetics of the Orthopedic Appliance and Limb Manufacturer's Association, through its member facility. A survey of the status of prosthetics in medical schools is presently underway, and a similar project has been planned for schools of physical therapy. Ultimately, a similar survey will be carried out in schools of occupational therapy.

These studies have documented the national needs in terms of prosthetic education and information, and they form the basis for the development of preliminary reports on "Analysis of National Requirements of Prosthetics and Orthetics Education Training and Information, 1960–70." At present the Committee on Prosthetic Education and Information of the Prosthetic Research Board has several projects underway:

(1) The development of an informational program for physicians in general practice.

(2) A special subcommittee has been formed to develop instructional material for release through medical schools for the instruction of undergraduate students and physicians in residency training.

(3) Special programs are being developed for national medical meetings as the result of survey information received from orthopedic surgeons and physiatrists.

The Committee on Prosthetic Education and Information is also active in developing prosthetic exhibits for professional meetings and informational articles for release through the press for the general public.

I believe that over the last 14-year period the Prosthetics Research Board has developed a broad array of new information that is now sufficiently well formulated that it could be well utilized as one of the areas of special interest in development of international cooperative research and development programs. It is apparent that we have much to learn about other nations' needs in artificial limbs, and that what we may find to be of maximal usefulness may be of little or no value in other areas of the world since their needs are different. I feel certain other nations could take information that has been developed here and alter it to serve their own needs. I am certain that the Committee on Prosthetic Education and Information could be of maximum help in locating advisory individuals to work with any international groups who desire to search out further information in regards to prosthetics.

When I was in recent conversation with Dr. Eugene F. Murphy, Chief of the Research and Development Division of the Prosthetics and Sensory Aids Service of the Veterans' Administration in New York City, Dr. Murphy pointed out that he and several others have been invited to participate as lecturers in the Second International Institute on Prosthetics at Copenhagen from July 30 to August 8, 1959. Dr. Murphy states that there are no funds available from any source to sponsor appropriate representatives from this country to serve in the role of instructors at this special course. He also reported that he was participating in special courses on a Fulbright fellowship. Last year he was invited to give a special lecture to the World Veterans' Federation meeting in Rome, and speak on upper extremity prosthetics; however, neither the International Society for the Welfare of Cripples or the World Veterans' Federation could locate funds to assist in securing a suitable speaker on this subject.

I am certain that there there are many examples in which the interests of this Nation could be furthered in the international field. In conclusion, I again urge that programs be developed to stimulate international interest and cooperation on programs for rehabilitation of handicapped individuals. Because of the highly varied nature of rehabilitation I believe that special areas should first be developed as an experimental undertaking, and it is urged that all groups that participate in the rehabilitation process be represented on equal basis. This will eliminate much misunderstanding both at home and abroad, as rehabilitation is easy to impress others with at an emotional level but at a practical level it is a complex undertaking. I hope you will find these recommendations of value.

Sincerely yours,

HERBERT W. PARK, M.D.

11. EXPERTS IN TRAINING OF FOREIGN RESIDENTS AND INTERNS

Senator HUMPHREY. From much of the preceding information, it is clear that one of the most significant aspects of U.S. cooperation in the field of medicine is through the training of foreign residents and interns.

This subject is significant both (*a*) to foreign countries and (*b*) to the United States. Here at home, it is of direct interest to the American medical profession as well as to the patients in American hospitals when treated in part by residents and interns who are foreign nationals.

The subject of the training of these foreign nationals has received long and earnest attention particularly by the Educational Council for Foreign Medical Graduates.

The significance of the problem in terms of numbers is indicated by the first item reprinted within this section. It consists of an excerpt from the report "Open Doors—1960," issued by the Institute for

International Education. This excerpt is entitled "Foreign Physicians Training in U.S. Hospitals."

I should like to point out that the Institute for International Education estimated in "Open Doors—1960" that there were a total of 65,328 foreign citizens on educational assignments in the United States in 1960. This indicates the enormous proportion of the total which is represented by the 9,457 interns and residents affiliated with U.S. hospitals. Our committee is indebted to Mr. Kenneth Holland, president of the IIE, for the institute's valuable suggestions and assistance.

A. COMMENTS ON DATA FROM INSTITUTE FOR INTERNATIONAL EDUCATION

EXCERPT FROM "OPEN DOORS—1960," PAGE 13

FOREIGN PHYSICIANS TRAINING IN U.S. HOSPITALS

During the academic year 1959–60, 9,457 foreign physicians from 92 countries were training in hospitals throughout the United States; 6,912 trained as resident physicians and 2,545 as interns. These figures represent a 13-percent increase over the 8,392 physicians reported last year and almost double the number reported in the first IIE survey of foreign physicians in 1954–55. In that year 5,036 foreign physicians were with U.S. hospitals. The percentage ratio of residents and interns has remained much the same over the years.

Hospitals with more than 50 foreign physicians

Hospital	*Number*
Bellevue Hospital Center, New York	87
Kings County Medical Center, Brooklyn, N.Y	75
Elmhurst General Hospital, Elmhurst, N.Y	63
Harlem Hospital, New York, N.Y	63
Jersey City Medical Center, Jersey City, N.J	59
University of Minnesota Hospitals, Minneapolis, Minn	59
Homer G. Phillips Hospital, St. Louis, Mo	58
Cleveland Metropolitan General Hospital, Cleveland, Ohio	57
Coney Island Hospital, Brooklyn, N.Y	57
Lincoln Hospital, New York, N.Y	56
Memorial Center for Cancer & Allied Diseases, New York, N.Y	55
Queens Hospital Center, Jamaica, N.Y	53
Barnes Hospital, St. Louis, Mo	50
Metropolitan Hospital, New York, N.Y	50
Colorado State Hospital, Pueblo, Colo	50

In 1959–60 foreign physicians trained in 45 States, the District of Columbia, and Puerto Rico, but 25 percent of all foreign physicians were located in New York State; 928 hospitals reported foreign physicians on their staffs but only 15 hospitals (5 more than last year) reported more than 50 foreign physicians. (See listing above.)

This year the institute is able to report on the fields of specialization of the foreign residents. Of those reporting 1,401 were training in general surgery, 787 in general medicine, 677 in pathology, 566 in psychiatry and 540 in obstetrics-gynecology.

Of the 9,457 physicians reported, 3,639 (38.5 percent) were from the Far East; 1,837 (19.4 percent) from Latin America; 1,714 (18.1 percent) from the Near and Middle East; and 1,543 (16.3 percent) from Europe. The Philippines was again the largest single source with a total of 2,319 physicians. (See listing below.)

Leading nationality groups of foreign physicians in the United States

Country	*Number of physicians*	*Country*	*Number of physicians*
Philippine Islands	2,319	India	375
Turkey	748	Greece	344
Iran	581	Japan	322
Canada	539	Korea	317
Mexico	498	Germany	261

Senator HUMPHREY. In order to get the benefit of the fullest judgment for the Institute for International Education, I wrote to Mr. Holland, inviting his reaction to a preliminary summary which we had developed on "Exchange Programs" and U.S. Government policy.

As usual Mr. Holland replied very helpfully.

Excerpts of his letter follow:

In the area of cultural and scientific relations, we feel that the United States should take the initiative in encouraging increased international cooperation in the exchange of persons, of scientific and cultural information, and of educational materials and equipment.

U.S. participation in such activities should be based on a recognition of the essential unity of human knowledge, to which men everywhere contribute and from which men everywhere derive benefits. To advance the store of human knowledge, it is vital that the findings of scientists and scholars in any country become known to scientists and scholars in other countries, so that hypotheses may be tested and new discoveries incorporated into the common body of knowledge. The effort of men everywhere to increase our understanding of our natural and social environment is an enterprise which, by its very nature, crosses national frontiers. The international educational exchange of persons contributes much to the exchange of ideas which is essential to the advancement of human knowledge.

If increased U.S. participation in international cultural and scientific activities is to be undertaken in this spirit, we shall need to devote more public and private funds to these purposes, we shall need to attract highly qualified and dedicated persons for service here and abroad, and make two major alterations in our attitude toward international cultural and education programs.

First, we must recognize that such programs should not and cannot be expected to serve short-range goals of U.S. foreign policy, and that to link them too closely with immediate phases and objectives of governmental policy in the area of world power politics is to jeopardize the success of such enterprises. We should enter into cultural and scientific exchanges with all countries which are willing to participate, with countries whose national aims seem to be in conflict with our own, as well as with those countries to whom we are linked by political or economic ties.

Second, we should regard our activities to promote international cultural and educational exchanges as efforts toward international cooperation, not as unilateral assistance. The willingness of the United States to cooperate with, rather than to help, foreign nations must be emphasized. Similarly, the responsibilities of all countries to contribute to the advancement of knowledge throughout the world must be stressed.

SUMMARY OF AMA REPORT

Senator HUMPHREY. An up-to-the-minute summation of the overall problem as regards foreign medical residents and interns, as well as related phases, was contained as part of the latest report of the Council on Medical Education and Hospitals of the American Medical Association. This report, based on the judgment of one of the council's expert committees, is an extremely authoritative statement which should, I believe, command the earnest attention of the medical profession and of all interested laymen in and outside of government.

The American Medical Association is to be congratulated, in my judgment, for the significant work which it has devoted to this problem. The following excerpts were published in the October 1960 issue of the Journal of the American Medical Association.

EXCERPTS FROM REPORT OF COUNCIL ON MEDICAL EDUCATION AND HOSPITALS, AMERICAN MEDICAL ASSOCIATION

Problems Related to the Foreign-Trained Physician

For the past several years, graduates of foreign medical schools have entered the United States in increasing numbers. Basically, there are three distinct groups involved: (1) alien citizens entering on temporary visas for limited periods of further medical study in U.S. facilities; (2) foreign-trained physicians entering as immigrants on permanent visas; and (3) American citizens who obtain their formal medical education abroad and return to the United States. The establishment of the Educational Council for Foreign Medical Graduates along with State board licensure requirements provide a means of rendering reasonable assurance that foreign-trained physicians in the United States will not exert an unfavorable influence on medical care and medical education in this country.

Organizations such as the Institute of International Education (which administers the Fulbright program), certain philanthropic foundations (such as Rockefeller, Kellogg, China Medical Board, etc.), certain Government agencies (International Cooperation Administration, Division of International Health of the U.S. Public Health Service, etc.), and such other organizations as the National Committee for the Resettlement of Foreign Physicians have concerned themselves with the selection, guidance, orientation and placement of foreign physicians, students, and faculty. These efforts in general have been directed toward assuring that individuals coming to this country for further education are the ones who will most likely bring the greatest educational gain to their country of origin. At the same time, the placement of these in the appropriate educational environment in the United States has been given due attention.

Unfortunately, these many organizations have been involved with only a small fraction of the total foreign physican population coming to this country. These necessary and meaningful services for the most part have not been available to the two largest groups, those here on temporary visas accepting posts as interns and residents and those entering on permanent visas with the intent of following a professional career in the United States. Although the program of the Educational Council for Foreign Medical Graduates provides a selection process, there is at present no adequate mechanism for providing the great bulk of foreign physicians coming to the United States for further training (and in some instances ultimately for medical practice) any kind of guidance and orientation to the American scene, nor advice and counseling in regard to the most appropriate educational opportunities available. This has been and remains the greatest detriment to fulfillment of the intent of the educational exchange program. As a result, much if not most of the medical exchange that is now taking place is unrelated to the educational needs and medical practices of the sending countries. This situation does not promote international good will and does not effectively foster improved medical standards.

What Remains To Be Accomplished?

In the best interests of all concerned, there should be created a central agency to: (1) collect and disseminate information concerning the activities of the many groups involved in this complex field; (2) coordinate these activities; and (3) provide necessary services now missing.

This needed central agency should be established through the joint efforts of the many organizations and agencies now involved with educational exchange in medicine and those which have an interest and responsibility in standards of medical education and practice in the United States. Initial discussions should involve among others the American Medical Association, the American Hospital Association, the Association of American Medical Colleges, the Federation of State Medical Boards of the United States, the Institute of International Education, U.S. Department of State, Department of Health, Education, and Welfare, and the Educational Council for Foreign Medical Graduates. Among matters which should be of early concern in these discussions are:

(1) The formation of a central coordinating agency as mentioned above;

(2) A study of the educational capacities of medical facilities in the United States which would be of value in elevating the level of medicine in other countries while at the same time preserving the existing strength of U.S. medicine.

(3) A study of the means by which all graduates of foreign medical schools coming to the United States can be given appropriate advice and guidance regarding educational opportunities. In each instance, this should be related to the specific needs and aspirations of the sending country.

(4) A study of the means by which all foreign physicians coming to this country can be best oriented to the American environment so that the social and cultural aspects of exchange can be exploited.

(5) A study of means by which physician immigrants can be given placement guidance in keeping with their own wishes as well as the needs of the Nation.

(6) A study of the reasons for and benefits and losses to be derived from the number of U.S. students now studying medicine abroad.

Under direction from the board of trustees the council is now studying the various facets of this problem, and as an initial step has scheduled a conference with interested agencies to arrive at a workable program for the future.

ADDITIONAL AMA COMMENTS ON INTERNATIONAL EXCHANGE

Senator HUMPHREY. Additional phases of the international exchange problem were cited in the succeeding issue of the JAMA. Its article drew upon the "Open Doors, 1960" report of the IIE and added:

EXCERPTS FROM JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, NOVEMBER 1960

The institute's report indicates that of the more than 48,000 foreign students in the United States, the most were enrolled in courses in engineering (11,000) and least in agriculture (1,615). Of particular interest are the approximately 600 foreign students enrolled in premedical studies, 1,048 in medicine (undergraduate and graduate but excluding internship and residency), and 1,847 enrolled as undergraduate or graduate students in the general field of biological sciences.

Visiting Foreign Scholars on Faculties of U.S. Educational Institutions

The institute reported that during the 1959–60 academic year, 2,539 foreign professors, instructors, lecturers, and advanced research scholars were affiliated with 278 U.S. colleges and universities. This is the second year that the number of foreign faculty members in the United States has been greater than the number of U.S. faculty members reported on educational assignments abroad. There were 1,777 faculty members from 339 U.S. colleges and universities on research or training assignments in 87 countries.

The largest group of visiting foreign faculty members (1,146) was in the natural and physical sciences. There were 544 scholars, almost twice as many as last year, who served on medical faculties, and 297 were in the various fields of the humanities. The Far, Near, and Middle Eastern; European; and African scholars were predominantly in the natural and physical sciences. Latin and North American scholars predominated on the medical faculties.

Of the U.S. faculty members abroad, the humanities, the social sciences, and the natural and physical sciences were the leading fields of interest. Education, medicine, engineering, agriculture, and business administration followed in that order.

Foreign Students in Medical Schools in the United States and Canada

In 1959–60 there was a total of 372 foreign students enrolled in U.S. medical schools (table 32). These students represented 68 countries. Included in this figure are 113 students enrolled in the entering class. Table 33 gives for 6 years the number of students from foreign countries admitted to medical schools in the United States as entering students in the first-year class.

The 12 medical schools in Canada enrolled 473 foreign students from 38 countries, the majority coming from the United States. The areas represented and the number of students from each area are included in table 34.

U.S. Citizens Studying Medicine Abroad

There appears to be no accurate calculation available of the number of U.S. students studying medicine abroad. However, it has been possible for the past several years to collect data pertaining to the number of American-born graduates of medical schools outside of the United States and Canada who have received their initial medical licenses in the United States. Table 35 records accumulated figures from 1950–54 and yearly data for succeeding years. Beginning in 1956, when returns were available from all states, it will be noted that the figure is steadily increasing, showing an increase of 82 in 1959 over the previous year.

TABLE 32

FOREIGN STUDENTS IN MEDICAL SCHOOLS IN THE UNITED STATES

Area	Countries, number	Students, number	Area	Countries, number	Students, number
Far East	12	99	South America	7	32
Near and Middle East	7	49	North America	2	20
Europe	14	68	Africa	10	20
Latin America:			Oceania	2	7
Caribbean	8	55			
Central America	6	22	Total	68	372

TABLE 33

FOREIGN CITIZENS ENROLLED IN ENTERING CLASS OF MEDICAL SCHOOLS OF THE UNITED STATES

School year:	*Number foreign students in entering class*
1954–55	94
1955–56	97
1956–57	92
1957–58	73
1958–59	110
1959–60	113

TABLE 34

FOREIGN STUDENTS IN MEDICAL SCHOOLS IN CANADA

Area	Countries, number	Students, number	Area	Countries, number	Students, number
Far East	6	50	South America	3	8
Near and Middle East	2	3	North America	2	301
Europe	11	29	Africa	7	9
Latin America:			Oceania	2	3
Caribbean	4	69			
Central America	1	1	Total	38	473

TABLE 35

INITIAL U.S. LICENSES ISSUED TO AMERICAN GRADUATES OF FOREIGN (EXCLUDING CANADA) MEDICAL SCHOOLS

Year	Number of licenses issued	Number of States
1950–54	99	20
1955 [1]	89	19
1956 [1]	103	15
1957	212	17
1958	284	26
1959	366	23

[1] Data not available for New York and Pennsylvania.

MEDICAL EDUCATION ABROAD

Senator HUMPHREY. A point which must be borne in mind is that there are a considerable number of differences between medical education in North America and in numerous foreign countries. These differences bear very significantly upon ultimate training within the United States of many foreign residents and interns. But the differences may affect, as well, the entire subject of international medical cooperation, including cooperation in research.

There follows now the text of an address delivered by Dr. John M. Weir, associate director of the Rockefeller Foundation, before the 56th Annual Congress on Medical Education and Licensure in Chicago on February 9, 1960.

B. ADDRESS BY JOHN M. WEIR, M.D., ASSOCIATE DIRECTOR, THE ROCKEFELLER FOUNDATION

OBSTACLES TO MEDICAL EDUCATION AT THE INTERNATIONAL LEVEL

John M. Weir, M.D., New York [24]

Medical education outside North America is a subject of interest because thousands of foreign graduates are now coming to the United States and Canada for graduate training in the clinical sciences as interns and residents. It is the responsibility of North American institutions to provide as high a level of training as possible. Quite aside from the moral obligation to provide any student with the best experience in medicine for his future work abroad, North Americans have a completely selfish obligation to do so in order to assure adequate care of patients in their own hospitals. Planning of such training depends on an understanding of the obstacles, better termed differences, in the training of these students at the medical school level.

Foreign education system

In view of the importance of understanding the basic curriculum followed in parts of the world outside North America in order to adjust our graduate programs to the educational background of foreign trainees, it seems appropriate to review some of the basic differences between the two systems in preparation for medical school as well as to review the medical school curriculum. In general, students attend 4 years of primary school, 4 years of intermediate school, and 4 to 6 years of secondary school. The students graduate from secondary school with a degree or certificate which qualifies them for admission directly to the university. The time spent in preparation for university work is about equivalent to the number of years spent in grade school, junior high school, and high school in the United States. Students enter a university abroad at the age of 16 to 18 years, which is about the same age for entrance to American colleges. There are, however, two important points to remember in comparing the systems. The foreign curriculum for the early years before university entrance is designed, in theory at least, to include all the work normally taken by American students through the first 2 years of college. The second point is that foreign universities are graduate rather than undergraduate schools in the American sense. Students therefore go directly from secondary school to graduate work as medical students, law students, engineers, and so on. This system is, in essence, the European plan for education, which has been most effective, with one or two exceptions.

Insofar as medical education is concerned, this system is adequate where the countries themselves have in fact adhered to qualitative as well as quantitative aspects of the curriculum of the secondary school. All too often, however, the quality of science education in these years is inadequate and largely theoretical in its approach. Consequently, in many countries students enter medical school without the sound knowledge of biology, chemistry, physics, or mathematics

[24] Read before the 56th Annual Congress on Medical Education and Licensure, Chicago, Feb. 9, 1960.

which is suitable for graduate study in medicine. In all countries using this basic educational system, some form of fundamental science teaching has been added to the medical curriculum in the first year. Unhappily, the courses are often given by professors from other fields in medicine or are oriented to medical aspects of physics, chemistry, or biology. Thus a vast number of students throughout the world start the intricate process of learning the art and science of modern medicine without the fundamental knowledge necessary to understand the complicated fields of the basic medical sciences and their application in clinical medicine.

This situation is perhaps the most serious obstacle to progress of medical education in many areas abroad. In almost every country able young scientists with modern training are returning to their universities with a desire to improve scientific instruction, but in many cases the students are quite unable to meet the challenge of better education because of basic deficiencies in their fundamental education.

The medical curriculum generally includes seven years of study, although there is now a strong move to reduce formal study to six or six and one-half years and to add a year of practical work after the formal courses. The first year is devoted to biology, chemistry, physics, and anatomy. The second and third years are normally concerned with physiology, biochemistry, more morphologic science, and, occasionally, introduction to medicine. In many universities the fourth year includes microbiology, pharmacology, introduction to pathology, and lectures in medicine. The fifth and sixth years are assigned to medicine, surgery, and pathology, while the seventh year is used for instruction in the various specialties. There is always a sprinkling of other subjects such as psychology, preventive medicine, and legal medicine throughout the curriculum. In view of the early age at which students enter medical school, the length of the curriculum is probably desirable, and the content, in theory at least, would be equivalent to that used in North American schools. As we shall see, however, there are several factors which tend to detract from the quality of the physicians produced by this system.

Problems of Foreign Medical Education

First, and perhaps foremost, is the problem of limitation of admissions to medical schools and the general lack of selective procedures for admission. This does not apply to such places as the United Kingdom, Sweden, Norway, or to one or two countries outside Europe. The general practice, however, rooted in a tradition of university education for anyone capable of passing from secondary school, is to accept all persons who choose to enter medical school irrespective of their academic record, personality, or motivation. Since a career in medicine has distinct social and economic advantages, it is not surprising to find that large numbers choose the school of medicine.

If the university is small and provincial one may find relatively small numbers of students entering the school of medicine. However, the large state schools almost without exception admit classes of 500 to 2,000 students annually. There have even been examples of classes up to 6,000 students. Classes of this size clearly preclude any small group teaching, intimate interchange between professorial staff and student, and, more important, any appreciable practical laboratory instruction. Instruction is largely by lectures and demonstrations to large groups of students barely able to hear the professor. Lacking practical instruction and an opportunity for discussion of the subject with the staff, the students turn to learning by rote from textbooks, often out of date, or from students' notes laboriously reproduced with the original errors and sold to less fortunate colleagues. Since in most of these institutions the students who fail are permitted to repeat courses as often as they like, the problem of a large student population becomes an overwhelming obstacle to the production of quality.

In looking over the plan of studies of many foreign institutions, one is often puzzled about why students appear to spend so many academic semesters on a given subject which may well be covered in North America by one semester or perhaps two quarters. The explanation becomes apparent when one realizes that most of the institutions have an academic year of six months, interrupted by many national and religious holidays and lengthy periods for examinations. In spite of the short academic term, most schools teach formal courses only in the mornings, even in the basic sciences. This is due, for the most part, either to a lack of tradition of full-time academic work or to low salaries which force

the professorial group to seek outside income from either practice or private laboratories. Thus the student body is left to its own resources for a large portion of the school term. To prepare for the detailed and theoretical examinations they turn to textbooks or, perhaps, to sports and motion pictures.

Clinical instruction suffers from the same deficiencies. In general, teaching hospitals are large charity or state institutions which are staffed by the professors and their assistants. Characteristically, the staff members attend the hospital for a few hours each morning, devoting the remainder of the day to practice. Since resident medical officers are not normally employed in the teaching hospitals and since the professor and his two or three top assistants retain all responsibility for teaching students, instruction is limited to morning hours and consists of massive lectures with demonstrations of patients. Only seldom are students allowed to participate with responsibility in the examination of a patient.

For the most part, a modern clerkship of the sort that exists in North America is unknown except in the countries noted. As a consequence, students may and do pass through medical school, are licensed, and start practice (or come to North America for training) without ever laying a hand on a patient or listening to a heart murmur. In fact, in two countries of Europe which I have visited on many occasions, thoughtful educators in the clinical sciences have estimated that over 70% of all the graduates fall within this category. Graduates coming here for clinical training arrive without previous practical experience in patient care and have been trained in a tradition which fails to give them the practical responsibility for patient care and diagnosis which is routine to resident staffs of American hospitals.

These obstacles and many others add up to an imposing problem in terms of graduate training for the new physician either here or abroad. Each country is attacking the problem in a variety of ways. Changes are not easy to achieve in institutions steeped in tradition and, in some cases, manned by professors who are distinguished but who have somewhat dated ideas about scientific medicine. In some of the European countries the problems of large classes and little opportunity for practical acquisition of knowledge are overcome by licensing graduates only for community practice outside of hospitals. The more competent students go on to seek an M.D. degree in graduate studies over several additional years, during which they work as a voluntary assistant in one of the clinical services, receiving each year additional practical and supervised training with patients and taking on increasing responsibility. Thus a reasonable supply of fully trained specialists for hospital practice is maintained, although the quality may vary tremendously.

Solutions

A new model for intensive reeducation of foreign applicants will have to be established in the United States. They need retraining or refreshing in the fundamentals of biochemistry, physiology, and the related fields of mathematics, chemistry, and physics if they are to use modern clinical tools competently. They must be oriented to American practices in examination and diagnosis of patients in the hospital setting and geared to a level of responsibility for patient care which will permit them to function effectively as resident house officers.

A beginning has been made in this direction on a small scale. Tulane University has established an intensive review course in science which covers one year. This has been eminently successful but is limited to a few graduate students who are preparing to fill major academic posts in universities abroad both in preclinical and clinical fields. Cornell University Medical College has operated an orientation course in the clinical sciences at Bellevue Hospital in New York City for several years. The merit of the course is demonstrated by the fact that graduates of the six-month course are able to enter top teaching residencies. This course is limited and is designed to prepare academic personnel. While these pilot courses have demonstrated that intensive retraining or orientation is feasible and successful, they cannot serve as a pattern for the over-all problem of evaluating and orienting several thousand young foreign doctors who annually apply for and are accepted in internships and residencies in the United States.

The solution is not clear. A step has been taken in the evaluation of the basic knowledge of applicants by requiring certification by the Educational Council for Foreign Medical Graduates. In this program students are required to take a modified form of the National Board examinations. This gives a reasonable measure of the technical knowledge of the students, which even in the poorest

schools may be substantial if the student has a good memory and has probed the textbooks at length. It does not, however, measure the capacity of the student to manage patients in the course of an internship or residency.

I suggest that the hospitals, either alone or in groups, will have to take the ultimate step of providing training through clerkships under supervision, combined with a review of basic science along the lines adopted by Cornell University Medical College, before assignment of medical graduates as house officers. In the end, this will improve materially the medical care supplied by the hospitals, provide a better basis for graduate teaching of all the house staff and, most important of all, raise the standards of graduate education of foreign students who have honored the United States by applying for training in its hospitals and schools.

VIEWS ON THE TRAINING PROBLEM

Senator HUMPHREY. Over the period of two years, the subcommittee has received scores of letters on different facets of the problem of this type of medical training.

A few of these welcome letters follow.

C. LETTER FROM STILES D. EZELL, M.D., SECRETARY, BOARD OF MEDICAL EXAMINERS, AND ASSOCIATE SECRETARY, THE FEDERATION OF STATE MEDICAL BOARDS, THE UNIVERSITY OF THE STATE OF NEW YORK

THE UNIVERSITY OF THE STATE OF NEW YORK,
THE STATE EDUCATION DEPARTMENT,
Albany, N.Y., February 25, 1959.

DEAR SENATOR HUMPHREY: I was delighted to have your letter of February 13, because it relates to an interest to which I have given a great deal of time because of the nature of my work both at the New York State level and at the level of the Federation of State Medical Boards of the United States. I was also pleased to have the reprint of "International Medical Research" which is a splendid background for some of the problems you have proposed.

While I am not too familiar with some of the specific ancillary problems which you have raised, I do have a concern over what I consider the basic problem in dealing with the exchange visitor. I was much delighted to hear your views when you appeared on the panel in Washington recently at the meeting of the Institute on International Education, and I believe that your concept of individual contact is now one which should be more seriously considered by all of us who have an interest in this field. I am inclosing some writing which I have done in fields related to this just to give you an idea of the concern I have for the foreign medical graduate as well as the exchange visitor.

I do not believe the major problem is one of getting printed material to people in foreign countries, as valuable as this is. Having had a rather large experience with exchange visitors, who, after being here for a time, have changed their minds and obtained permanent visas and who will not return to their own countries, I am convinced that the present program involving the exchange visitor is one which almost totally sacrifices the potential good which might come out of a true exchange program. Actually, this can never really be a true exchange program because, under the type of education and training which we can offer in this country, there is little point in having any appreciable number of our educators and practitioners going abroad where they would not have the same type of facilities they have here. Thus, I believe that training the individual exchange visitor has to be written off for the most part as almost a total loss.

Since it is now obvious that the Federal Government intends to spend a considerable amount of money in the field of medical education and research, I would like to suggest that your committee might wish to give consideration to modification of the rules and regulations so that the groups would be brought over rather than individuals. It is now clear to me that only by bringing a nucleus from a recognized medical school faculty and by training the individuals in a group situation and being certain that they return to their own faculty as a group, will it be possible to make any progress in raising the level of medical education and practice in most of the non-English-speaking world. This would mean that a group, including a surgeon, internist, radiologist, obstetrician, anesthetist and others, would come over together, be trained together and go back home to put into practice a concerted effort which the individual can not effect in his own school.

Unless it is realized by all concerned that the exchange visitor will be limited in what he can absorb and also in what he can do when he returns to his own country, the mistake may be made of attempting to overtrain him. We are in the throes of a tremendous activity in medical progress which is accomplished by an unusual amount of interest in research. However, the amount of money being spent is too far out of proportion to the results which are being obtained. This is not to discourage the idea of research but I believe there needs to be some definite thinking done about concerting some of our research and also some realistic thinking about whether or not the large number of grants now being made should be labeled for research. The amazing thing is that many of our exchange visitors go into hospitals which are not primarily oriented to research and yet they find an enormous amount of activity going on which is labeled research. I am frank to say that many of them have spoken of this activity with some disgust because their concept of research is far different from what some of our people think of in terms of research.

Except in persons who have demonstrated previously some ability in the field of research, I doubt very much whether it is advisable to attempt to train any of these exchange visitors in the field of research until such time as the opportunity for continuing this work is available in their own country, and until such time as the level of the effort in medical education is brought up to a point where the governments and other agencies which support most of the medical schools in foreign countries have reached a point where their attitudes will be not only stable but favorable to the type of situation which is required if one is to be permitted to do independent work.

I am certain that you will see from this discussion that my concern is that perhaps it would be wiser to attempt to assist the medical schools in foreign countries to raise the level of their present educational programs before any serious effort is made to interest them too much in the field of research. I do believe that the question of getting our medical journals to other parts of the world is not as serious or deficient as one might suspect. I have had the opportunity to talk to a large number of refugee groups of physicians who came out of Hungary in 1956, and I was amazed to find that they have had most of our medical journals available for the past 10 years, and, surprisingly also, they are able to read these journals and understand them.

I have also been tremendously interested in the reports which have come out of Russia about medical education and practice so far. Unfortunately, none of the reports to date have given us much detail about the quality of medical education, but there can be no doubt about the fact that there is great activity even if it is of a forced nature. It is obvious that the Russians have had access to most of our journals, particularly those which have to do with research, because, as you know, they are now publishing abstracts in English of all of the work which is going on in medicine in Russia.

I am firmly convinced that when one can observe in a foreign country evidence that the mass of the people is being neglected insofar as health needs is concerned, the conclusion is that the medical profession is inadequately trained or that it is prohibited from providing good medical care. It this is true, it seems to me that the major problem is one which should be directed toward improving the service involving basic medical needs. I go back to the premise that this can best be done by improving the medical schools. This, of course, is something which will require at least one generation since the graduates who are now out in practice will be a difficult group to deal with because of their previous training and because of the frozen attitude which inevitably comes with the type of external domination which is so common in so many parts of the world.

Thus, I believe that our exchange program was badly conceived to begin with and that in the years it has been in operation it has not made any appreciable contribution to the type of thing which I propose here. Strangely, all of us who have dealt with the problem in the past few years have been slow to come to the conclusion that medical education has so many different levels throughout the world. I believe this is our most difficult problem now in respect to our various hospitals and teaching institutions, and you will note in the paper which appears in the Hospital Forum that I have touched upon some aspects of this.

In conclusion, I believe that the only real contribution that this country can make toward overcoming the wide differences between the type of medical care available here and that available in so many other parts of the world is to spend most of the available money in setting up regional programs where groups from various medical faculties can be trained not only in special skills but also in

the ability to teach. Except in a very few rare instances involving some of our best postgraduate medical schools, there is no effort being made to develop the teaching potential in the exchange visitor. Again, we come back to the basic philosophical differences between our way of educating physicians and that commonly followed in most foreign countries. This can best be illustrated by referring to the enormous contribution which chief resident physicians now make to our teaching program in contrast to the long weary years the person in a country, such as France or Italy, must go through, in order to reach a point where he is even permitted to teach. I believe that if we could establish this system of having a nucleus from a faculty come over and if we could make of this group a real teaching unit, the problem of raising standards in medical education would soon be realized. From the teaching point of view, the major problem is that of diverting the interest of the exchange visitor from the ancient concept of lecturing to a more realistic concept of participation with the student in the teaching process.

Perhaps I have confused you more than enlightened you, but these are some of the things which occur to me since it has been my privilege in this position to have the opportunity to talk to hundreds of people who have a medical background but in most of whom there is a marked difference in what medicine has meant to the individual. I would close by making one other comment which, to me, has tremendous significance, namely that much of what the future holds for the economic, political and social life of people in the underdeveloped parts of the world hinges directly on the quality of medical care which would be available to them in the years to come.

Very truly yours,

STILES D. EZELL, M.D.,
Secretary, Board of Medical Examiners, and Associate Secretary, The Federation of State Medical Boards.

D. LETTER AND ARTICLE FROM MELVIN A. CASBERG, M.D., VICE PRESIDENT FOR MEDICAL AFFAIRS, THE UNIVERSITY OF TEXAS

THE UNIVERSITY OF TEXAS,
Austin, April 28, 1959.

DEAR SENATOR HUMPHREY:

* * * * * * *

Having spent some 20 years of my life in the Far East as student, medical missionary and a member of our Armed Forces, I have a deep interest in the strengthening of our international relationships. Just this past January, on invitation, I visited two medical schools in India, the Ludhiana Christian Medical College in the Punjab and the All India Institute of Medical Sciences in Delhi. The first is a mission medical school supported by many denominations from many countries, and the latter a model medical school being built by the Government of India. En route I also spent a day at the University of Hong Kong Medical College.

During these invitations I have been impressed as never before with the great potential of the medical sciences in the promotion of international goodwill. Against a background of wars and rumors of wars, where the measure of national prowess is related to units of human destruction, medical research presents a humanitarian currency with an exceedingly high rate of exchange.

I shall limit my remarks to only one area in this broad field of international medical research. This pertains to the training of research scientists from those countries not blessed with an economy which will support a high level research program for the repatriated trainee. Time and again I have seen the well motivated student scientist from the Far East come to America and receive a graduate education, then return only to find that the environment of his native land cannot utilize the new level of his professional capabilities. This results in compromise and disillusionment.

In the development of an international medical research program, careful attention should be given to the training of medical scientists in home environment. There must be a free flow of people and thoughts between our own country and the nations affiliated in this endeavor. It would be a mistake, in my estimation to develop a topheavy organization with an overemphasis of facilities and personnel in this country to the neglect of research and training in other lands..

The facilitation of the exchange of medical research scientists and educationists will strengthen international goodwill far beyond our greatest expectations. These are the blue chip investments on the marketplace of the brotherhood of man. Enclosed is an editorial soon to be published in "The Journal of Medical Education," which focuses on this matter. * * *

May I wish you and your committee every success in your deliberations.

Sincerely yours,

MELVIN A. CASBERG, M.D.,
Vice President for Medical Affairs.

MEDICAL EDUCATION, AN AMBASSADOR OF INTERNATIONAL GOOD WILL

(By Melvin A. Casberg, M.D.)

On the marketplace of international good will the humanitarian aspects of medical science present a currency with an exceedingly high rate of exchange. Against the background of wars and rumors of wars, where the measure of achievement is related to potentials of human destruction, it is a welcome relief to feel the warmth of man's kindness in terms of medical care. A growing sense of appreciation that man is his brother's keeper has stimulated the genesis of numerous international health missions within the past few months and years. In a recent appearance before a Congressional committee, Dr. Gunnar Gundersen, President of the American Medical Association, epitomized this situation in his statement, "There is a growing recognition that medicine, with its resources and influence fully mobilized, can perhaps do more for world peace than the billions of dollars being poured into armaments."

The direct care of the sick and injured has an immediate and therefore more dramatic effect on both participants and observers. In the emotional surcharge of such activities, we are prone to forget that the foundation for such efforts and the long range continuation of these humanitarian missions are dependent fundamentally on the education of the medical scientist. Thus medical education actually becomes an even more important potential for improving world health and increasing international good will than medical care itself. That this fact is being assigned increasing importance in the minds of medical educators is evidenced by the development of numerous programs of affiliation between schools of medicine in this country and those abroad.

India, the world's most heavily populated democracy is struggling to meet the growing demands for increased numbers of medical scientists. Mr. M. C. Chagla, Ambassador of India to the United States of America, stated in the January 25, 1959 issue of "The New York Times," "What is going on in India is of tremendous importance to America and to everyone who is interested in the democratic way of life. We are seeking to prove to the world that it is not necessary to scrap democratic institutions, to extinguish the spirit of freedom, to undermine the dignity of man in order to bring economic prosperity to a country. There are many doubters and critics. It is glibly said that democracy and freedom are the exotic food that only a highly developed society can afford. We are engaged in a mighty struggle to rebut and disprove this view."

A recent visit to India presented evidence on every hand that medical education held a high priority in a state and national interest. Equally evident were the difficulties facing a realization of these worthy goals. Herein lies an opportunity for American medical education to work with their fellow Indian educators in order to assure that nation's ultimate success in this valiant struggle, a struggle which is not local but worldwide in its implications.

In the initiation of a freer educational communication between India and the United States a relatively minor technicality, an "academic tariff" so to speak, should be resolved. This relates to a hesitance on the part of each of the above nations to recognize certain of the other's educational standards. Recently, in an attempt to rectify the matter of the graduate medical education of foreign medical students in the United States, there was established the Educational Council for Foreign Medical Graduates. Although this program, which is still in its infancy, may not be perfect, it is a step in the right direction. Unfortunately, the failure of India formally to recognize graduate medical education in this country deters her students from coming to American institutions. By the same token, American educators are not academically accredited in India.

A mature and objective approach to this problem would seem to be an early meeting of the Indian and American authorities responsible for accreditation and a resolution of this undesirable technicality in the dispassionate atmosphere of academic goodwill. India and the United States have much to gain in eliminating this minor obstacle to their growing international cooperation and goodwill.

E. LETTER AND ARTICLE FROM FRANK B. BERRY, M.D., ASSISTANT SECRETARY OF DEFENSE (HEALTH AND MEDICAL)

ASSISTANT SECRETARY OF DEFENSE,
Washington, D.C., May 22, 1959.

DEAR SENATOR HUMPHREY: I wrote an editorial in January 1959 dealing with the foreign intern and resident, a copy of which is enclosed. I know how much interested you are in the international medical situation. * * *

I believe [trainees are] a most important group and can do a great deal of good if provisions are made to help them when they return to their own countries. I realize that many are on fellowships from their own countries or under our Department of State. On the other hand, many who complete their full postgraduate education here pay their own way and personally I have never thought that paying one's own way should be held against one.

With all kind regards,

Sincerely,

FRANK B. BERRY, M.D.

THE FOREIGN INTERN AND RESIDENT [25]

(By Frank B. Berry, M.D., Washington, D.C., Assistant Secretary of Defense (Health and Medical))

In the June 1958 number of the "Journal of Medical Education," [26] there is mention of a recent report by the Educational Council for Foreign Medical Graduates. This article states that 298 graduates of foreign medical schools took the first American Medical Qualification Examination on May 26 and of these only 152 obtained a passing score. There were 400 questions, and for many this multiple choice machine-scored examination was a brand new experience. Part of the trouble was the low reading rate in English. This result is interesting and should indicate that these 152 young graduates who enter our hospitals for internships and residencies are well qualified both from an educational standpoint and from their ability to read, write, and speak English. This last triad is of extreme importance.

We are now presented with the problem of how they can best be prepared for return to their home countries. What should be our objectives for this group in their postgraduate training? Many will say that of course just fitting them into our system will produce the best results, which is all right as far as it goes. Many of these young men return to countries years behind us in medical progress and equipment, and when they return they encounter certain defensive hostility against them. Due to protective reaction on the part of the local profession, they are kept out of hospitals and medical schools or assigned to very junior positions, and it may take them 15 to 20 years to progress to the level of responsibility which they had attained at the completion of their residencies in our hospitals. This situation is wrong and is completely discouraging to them.

In our postgraduate programs in surgery, for example, first of all they should be provided with a well-rounded experience in surgery and its major specialties: urology, gynecology, orthopedics, trauma, and simple forms of plastic and reconstructive surgery. As to thoracic surgery, here again they should be taught the more simple procedures and those which they will find most necessary in their countries of origin, above all those for tuberculosis and other infectious and parasitic diseases of the lungs. Procedures which require elaborate hospital equipment and organization, expert anesthesia, and assistance will be beyond them until they have a chance in ensuing years to organize along such lines if

[25] Reprinted from "Surgery, Gynecology, and Obstetrics," January 1959, Vol. 108, Number 1, pp. 105–106.
[26] Special article. J. Med. Educ., 1958, 20 : 33.

they are interested. To teach them and to lead them on in the belief that they will be equipped to undertake this type of surgery and surgical research on their return home is to mislead them and create further difficulties for them on their arrival.

At the present time, for example, 11 young men of the type I have in mind, from Iraq, are in this country. All of them are, or were until recently, in teaching hospitals in the State of New York, with one exception; he has been at a medical center in New Jersey and now has moved to Detroit for his thoracic surgery at a well-known center in that city. One is already board-certified in general surgery, and the other specialties included are general and thoracic surgery, internal medicine, proctology, urology, radiology, obstetrics and genecology, otolaryngology, pathology, and pediatrics.

One of these young men recently wrote to me: "To be honest with you and to give you a good example, take my situation. I have been in this country for seven years, had wonderful training in general surgery and thoracic surgery and have been certified by the American Board of Surgery and (am) in the process of being certified by the Board of Thoracic Surgery. Because I know the situation at home, and lack of modern hospitals to work in, my intention is to go home and take care of our business which has nothing to do with medicine. But I am full of enthusiasm and desire to teach and practice my specialty if I can find the place and proper conditions."

A Nobel Prize winner has suggested that perhaps our efforts are misdirected, that we are teaching imaginative American surgery beyond the present capabilities and environment for these young men, and furthermore we should not send them back to their own countries shorn of all protection because they will be rejected and bitterly disappointed. His suggestion was that we try to form these young men into groups, including a nurse and technician if possible, and then attempt to assure them of proper positions in their hospitals and medical schools. This is ideal if it can be accomplished. It may require assistance on the part of our Government through the International Cooperation Administration program, the Department of State, or through some of our foundations. On the other hand, as the Educational Council for Foreign Medical Graduates proceeds in its work and gains experience, they may be of great assistance also.

If an educational and training program is arranged so as to equip these young men to meet their native conditions, and then if we can follow through a few steps further with the assurance that they will have a friendly reception by the Americans who may be present in their countries, together with encouragement and some provision for the practice and teaching of their specialties in their countries, they will provide this country with a group of ambassadors of good will. Unless we are able to make suitable provisions, these men will return home discouraged and understandably cynical about their American experience. The result will be that the United States will lose its enviable position as a highly desirable country with many fine centers for postgraduate education for the foreign groups we care most about. These graduates will forge their way to new centers where they will be cordially welcomed and taught other ideas and professional philosophies. Or, they will reopen the old paths.

Success in our purposes requires that we have vision to see, hearts to understand, and minds to resolve the problems of the world in which we live.[27]

ADDRESS AT STUDENT AMERICAN MEDICAL CONVENTION

Senator HUMPHREY. Among the groups with which we have been in contact on this problem is the Student American Medical Association. The following is the text of an address by the Editor of its official publication, "The New Physician," Dr. Edward R. Pinckney, before the House of Delegates, S.A.M.A., in San Francisco on May 6, 1960. Dr. Pinckney had forwarded this address to the subcommittee in view of our interest in the general problems he discussed.

[27] Dulles, John F., "The Challenge of Change," Dept. of State, June 6, 1958.

F. EXCERPTS FROM ADDRESS, "THE UGLY HOSPITAL"

(By Edward R. Pinckney, M.D., Associate Clinical Professor of Medicine, College of Medical Evangelists, Beverly Hills, Calif.)

* * * Some of you may not be aware of this, but in almost no other country in the world can a medical student express a constructive criticism about his education, faculty, or philosophy. * * *

For the past three years, as editor of your official publication, I have been selecting and printing *your* opinions. Some I have agreed with: some I have not. Whether I shared the views expressed by members of SAMA was not important, what was important were the constructive ideas expressed, many of which have already led to action on the part of medical schools, hospitals, and various professional associations.

Since I have listened to you, without visible complaint, for so many years, I would like to use this particular occasion to ask you to listen to *my* opinion, hopefully without visible complaint, at least until I have finished. For what I am about to propose to you, as representatives of medical education in the United States, may be, in my humble opinion, the most important constructive act toward world peace any physician or, for that matter, any citizen, could take.

But let me preface my proposal with a bit of philosophy. In my opinion (isn't that a wonderful phrase—depending on how it is said: it can bespeak modesty while inciting action or it can bespeak egotism and incite only wrath); at any rate, in my opinion, the most important role you as a physician will have to assume, during your lifetime of practice, is that of diplomat—be it between you and your patient or between you as a representative of your country with men of other nations.

In a sense, dealing with a patient is analogous to dealing with a foreign country. You know, a patient with cancer might easily be compared to an underdeveloped country—both need encouragement as much as they need treatment. In fact, any kind of treatment, without hope for the future, is quackery in its worst form—be it applied to a sick person or to a sickened populace. Just as any patient you will have must be treated as a person, not as an organ or a disease, so must relatively underdeveloped countries be treated with due respect to their potential attainments.

So, with this bit of philosophical background, let me now explain what I mean by "The Ugly Hospital." I am sure many of you are familiar with the best-selling book—"The Ugly American." It is a novel of how many untrained Americans work in foreign countries, ostensibly to aid a neighbor nation, but, in reality, they seek only to fatten their own purse and ego. Having once been an indirect part of medical foreign aid in action in Costa Rica, I can assure you the book is, unfortunately, all too true. Nevertheless, many persons do not realize the ugly American is the hero of the book; not the villian. In a sense, it is the *ugly* American (now the word ugly refers only to the man's external features; features which make him as different in his looks as in the way he tries to do something worthwhile); anyway, it is the ugly American who succeeds in overcoming prejudice, hatred, incompetence, bigotry, and misunderstanding (misunderstanding is as polite as I can get), and provides comfort, assistance, education, and hope to those with whom he comes in contact.

Therefore, what I mean by the ugly hospital is that perhaps this institution can also be a hero and assist our ugly American to promote better understanding amongst men of all nations.

But why pick on the hospital? Just because we are all doctors, and this is a medical meeting? Not at all. There is both reason and purpose for this particular talk at this time and before you as a particular group.

It all began * * * in Chicago almost a year ago. Your executive director, Russ Staudacher, Mr. Julius Cahn, the project director for the United States Senate's study of international health problems, and myself were discussing ways and means for SAMA to assist the U.S. Senate in solving some of the difficulties of foreign relations insofar as health was concerned. * * *

* * * We discussed the matter of the medical student, intern or resident, born and trained in a foreign country. And here, * * * lies my message.

At the request of the U.S. Senate, "The New Physician" ran a questionnaire for foreign physicians asking them what they thought about their training in U.S. hospitals, their reactions to what they saw of the U.S. way of life, and what they would like to see done about any situations they felt were not compatible with what they had hoped for. The answers, while not numerous, were indeed shocking.

Let me condense some of the information derived from our questionnaires into a few brief statements:

> The aspect of American life I like least is the prejudicial way some Americans treat foreigners.
>
> The lack of respect Americans seem to have for each other, let alone toward foreigners, stands out to anyone from another country.
>
> You do not train doctors, in the broad sense of the word; you train mechanics who specialize in some part of the body with complete disregard to any connecting part of the brain that controls that part.
>
> Americans seem to have no conscience about misleading anyone, including themselves.

The specific example brought out by the doctors from other countries was the "false" advertising by hospitals to attract medical personnel. Promises of wonderful training turn out to be lures to provide hospitals with cheap labor—the same cheap labor Americans condemn in foreign countries.

Lastly, and I have only mentioned a few of the many reactions to American medical training offered to foreign doctors, is the matter of responsibility. Most foreign doctors felt they were never treated as doctors.

It did not seem to matter how much training a foreign doctor had had (even how many years he may have actually practiced a specialty in his own country), how skilled he might be at surgical techniques, or how adept he was at diagnosis—everyone in the hospital treated him as if he were one step below a first-year medical student (and outside of being an intern, how much lower can you get).

This policy is best reflected in a letter from one foreign physician. Let me quote:

> In many hospitals we cannot order anything except aspirin without calling the private doctor for permission—even in emergencies. There are cases of myocardial infarctions, shock, diabetic coma, etc., where resident physicians (because they are foreigners) are unable to order EOG's, intravenous fluids, etc., without first obtaining permission. Several patients died because of this, but the practice continues. One intern was threatened with firing and deportation when he inserted a needle in the chest of a patient who developed a marked tension pneumothorax and almost died. That patient owes his life to a foreign doctor who would rather be fired and deported than let a patient die. And even afterwards, there was not a single apology from the nurses or administrative staff.

To be sure, this is only one extreme example; yet it seems that extreme examples are needed to provoke action. I do not mean to imply that this goes on in all hospitals, but I cannot forget when I was chief resident in medicine at an eastern hospital and we had a Rotary International-sponsored surgeon from India there as an "intern." This man had been performing, on the average, 10–20 major abdominal operations a day in his own country. He was skilled enough to be on the board of medical examiners for his district. Although he came over primarily to learn American techniques and ideas, no sooner had he demonstrated his own able abilities than the men on the staff ignored him, refused to teach him, and even treated him disrespectfully. After a few months of being used as a menial servant, he went back to his own country, where he was ready to confirm communist propaganda about the United States.

But enough of the bad side. What can be done?

You, here as representatives of medical centers, can do something about it. You must, first of all, treat your foreign colleagues as equals, both as men and as doctors. Just because they have not been trained as you were is no reason to assume they know nothing about being a doctor. Too many American doctors refuse to accept a new technique or idea simply because it came from foreign soil. Yet, looking back, penicillin, vaccines, sulfa drugs, tranquilizers, and many, many more drugs, even aspirin, along with surgical techniques and instruments, all came from the foreign doctors we tend to disparage.

Second, you must take them into your homes to show them you are open-minded, warm human beings—not the machines they see in our hospital environment.

Last, you must change the environment of the hospital in which they, as well as you, work. A physician must be treated as a physician, be he a medical student, intern, or foreign-trained specialist.

And it is in this last area that success lies, not only in better treatment for patients, but in foreign relations, and, ipso facto, world peace. Did you know that in all other countries but the United States, physicians are the most powerful politicians? In Latin American countries, more doctors have been presidents than men of any other profession. You can see, then, that when we treat a foreign physician unfairly, as well as with bias, we are planting the seed of discontent against the United States far deeper than with any other single group of people. People of foreign countries look to their doctors as leaders in public welfare as well as healers.

We must seek out foreign physicians and students, ask them their opinions, not be afraid of the truth; and if it is not the truth show the man where he is wrong. It seems then that our hospitals, even if they are ugly (and anything representing sickness is certainly not beautiful) are the most important places to start promoting foreign aid. And at the pay interns and residents receive, it will not come near our present $4 billion foreign-aid bill.

Let us encourage interns and residents, from no matter what country, to learn to assume responsibility during their hospital training. You know, in February 1958, I wrote a brief article in "The New Physician" on how the internship teaches a doctor to accept responsibility. I am still receiving letters from American doctors who feel they are treated unfairly. Can you imagine then, how a foreign doctor feels?

With over 8,000 potential diplomats from foreign countries now training in the United States, it is my opinion that SAMA chapters should take it upon themselves, as their chief project throughout the year (and this is a project that with joint cooperation from the auxiliary, would triple success), to see to it that every foreign-trained physician in their area is contacted, is listened to and made to feel that he is wanted and that we want to help him learn. Only through you can we make The Ugly Hospital the hero of the story.

Now you've heard my opinion, I would welcome hearing yours, now or later, on this subject. I want to thank you again for listening, and for the opportunity of serving as your editor this past year.

12. Correspondence on Specialized Biomedical Problems

Senator Humphrey. Many bulky volumes would be required to reproduce the enormous quantity of letters which the subcommittee has received from experts in a vast variety of medical and related disciplines.

Since it is not possible to refer within the present volume to more than a few of these many messages, I have chosen the following letters for their value in illustrating certain points in a variety of fields which might not otherwise receive attention.

The fact that they are grouped within this "miscellaneous" category does not detract from the fact that the particular subject matter of each letter might merit a volume in its own right. In a survey such as this, however, we can do little more than highlight the wide number of fields.

I have selected for this section a single illustrative letter for each category of medical and health-related affairs. Only a relatively few categories are, however, included.

PSYCHOPHARMACOLOGY

In the field of international cooperation in psychopharmacological research, I have selected a helpful communication from Dr. Nathan S. Kline, Director of Research at the Rockland State Hospital, State of New York Department of Mental Hygiene.

Dr. Kline is not only a winner of the Lasker Award, but has won many other honors in the field of psychopharmacological advances. His report on the international work of his facility represents, I

believe, a remarkable page in the history of man's never-ending struggle against diseases of the mind. Mental health is a field in which foreign scientists have contributed so much that it is most appropriate that the United States should now repay its debt, so to speak, by serving as headquarters for much of the recent progress.

MARINE BIOLOGY

An example which follows a little later on will be somewhat less familiar to most laymen and indeed to most medical scientists. It concerns research in marine biology. In my judgment, one of the great frontiers of biomedical science is in the field of scientific analysis of life in the waters, including potentials of extracts of such life for pharmaceutical purposes. In this particular field, science has made only the smallest beginning in fruitful progress.

One of the pioneering institutions is the famed Zoological Station in Naples. It was visited in October 1958 by the project director of our study, Mr. Julius N. Cahn. This visit was followed up by correspondence which we have carried on with the distinguished director of the station, Dr. Peter Dohrn. Dr. Dohrn kindly sent to us a summary in response to certain inquiries which I had presented to him as to the biomedical significance of his and related studies. I cannot too highly commend the station's approach for future support by American sources (i.e., National Science Foundation and possibly others) as well as by foreign science.

TOPICS OF OTHER LETTERS ON RESEARCH AND ASSISTANCE

Other illustrations in other fields follow thereafter—e.g., nursing, rheumatology, medical records, medical technology, sanitary engineering.

The subcommittee is grateful to these and many other contributors who took time out from their busy day in order to favor us with their reactions.

PSYCHOPHARMACOLOGICAL RESEARCH

ROCKLAND STATE HOSPITAL,
Orangeburg, N.Y., March 11, 1960.

DEAR SENATOR HUMPHREY: Knowing of your intense interest in international health I am writing to describe certain aspects of the field that are not likely to come to your attention through official channels. The following pages detail a small-scale operation that I am certain has been repeated many times over. Because of the very smallness of the operation and its intimate quality it probably presents a side of the picture which would otherwise be lost.

Ten years ago the paucity of workers in the field of psychiatric research was unbelievable. There was only one mental hospital in the entire country that had a real tradition and reputation in this field, Worcester State Hospital, Worcester, Massachusetts. When I inquired about a position that would enable me to continue the research work I had started and also receive advance training, I was offered the directorship of the Research Facility. If there was no one to give advance training, then I would have to train myself. Two years later I accepted the directorship of the Research Facility at Rockland State Hospital, Orangeburg, New York, a position I continue to hold today. An immediate problem I inherited was how to build up the research staff I felt necessary. I could find no "takers" who seemed qualified for the positions I had to offer. A neighboring institution had received an application from an Australian psychiatrist and, since he did not fit into their scheme of things, his application was forwarded to me. He has been a member of my staff for the past 10 years and is now an

American citizen. His wife, also from Australia, is one of our best research nurses. Shortly after this, we acquired a Japanese biochemist who had subsequently been trained in psychiatry. Not only has he been a member of my staff for about the same length of time, but during these years has arranged for half a dozen leading Japanese scientists working in the psychiatric field to spend varying periods of time as members of our staff. Shortly after this, we acquired a Danish psychiatrist and since laboratory technicians are in short supply in this country, and since Danes love to visit the United States, during the past six years, we have trained more than a dozen Danish laboratory technicians. Another permanent member of our staff, an electronics engineer, was born in Austria and trained in Australia. In addition, we have a biochemist from Colombia, South America.

During a trip to India in 1957, I had the opportunity of lecturing to and meeting the psychiatrists and some of the scientists working in other fields who were interested in psychiatry. Largely as a result of this we now have two psychiatrists from India on our clinical research staff in addition to an Indian biochemist. The doctor in charge of our clinical research services was raised and trained in Scotland while one of the nurses and a lab technician are from England. Our head nurse and one of the attendants come from the Caribbean area.

During the past five years we have had on our staff, for longer or shorter periods, persons from Indonesia, Taiwan and Africa. We still have on our staff, in addition to the above, persons from Hungary, Czechoslovakia, Germany, Austria and England.

Our successful research in the field of psychopharmacology has resulted in a series of invitations to other countries. Since 1956 I have lectured or held clinics or consultations in Austria, Belgium, Holland, France, England, Italy, Germany, Denmark, Switzerland, Czechoslovakia, the Soviet Union (where I addressed the Institute of Psychiatry of the Academy of Medical Sciences), India, Pakistan, Liberia, Ghana, Nigeria, Mexico, Haiti, Canada and Spain.

Through my contacts with these many countries and their representatives working here with us, I have become more and more aware not only of the important, greatly needed medical assistance which we can give to underdeveloped countries, but of the many lessons that we can learn from them and through working with them.

It has been our belief that in order to further diminish our mental hospital population in the United States, psychopharmacologically oriented out-patient clinics must be established which would treat the mentally ill prior to commitment, thereby keeping a good percentage from being committed at great cost and with the loss of contact with family, job and society as a whole. We also believe that this same type of operation would be extremely valuable for those countries which have very few professionally trained personnel. Two years ago we, therefore, organized just this type of demonstration clinic in Haiti, a country of four million people but only one psychiatrist and an insane asylum staffed with no medical personnel whatsoever.

We received complete cooperation from the Haitian Government which turned over to the project valuable land directly adjacent to the general hospital in Port-au-Prince and which agreed to staff the clinic and pay for its annual expenses. The cost of building the Haiti Psychiatric Center was shared by three pharmaceutical firms—Hoffman-LaRoche, Schering and Wyeth. In addition these three companies have contributed the drugs used by the center as well as the costs involved in the temporary services of an American-trained French psychiatrist who has been in charge of developing the clinical operations.

We have also had the cooperation of the New York State Department of Mental Hygiene through which we were able to give six months of training to two Haitian physicians and five Haitian nurses at Rockland State Hospital.

While the center has been open only a year, and therefore too early to judge the results, we do have certain facts which convince us of its importance and worth. In Haiti itself many mentally ill are for the first time being treated. The clinic has been accepted by every group of the population and patients are literally being unchained from the bed posts and are being brought down out of the hills to the new clinic. McGill University has requested permission for one of their psychiatric residents to take his fourth year's residency at the clinic. At the request of the Pakistan Government, another drug firm, Chas. Pfizer, enabled us to travel to Karachi this past summer in order to help the Pakistan Government formulate plans for setting up a similar operation. Their Government has agreed to put up half the funds needed for an Asian demonstration clinic and at present we are searching for matching funds in this country.

Liberia, too, has become interested in this type of set-up. Through the intervention of the Liberian Ambassador to Haiti, I was the guest of President Tubman in Liberia as his consultant in psychiatry this past winter. The President was most interested in using this method in the new mental facility now being built, thereby treating many more Liberian mentally ill at much less cost. Plans are already underway between the Liberian and Haitian Governments for Liberian staff to be trained at the Haiti Psychiatric Center and I have been requested by President Tubman to find an American psychiatrist with the knowledge and interest in developing a psychopharmaceutically oriented clinic in that country.

At the American Psychiatric Association's annual meeting this coming May, I have been asked to moderate a round table discussion on "The Psychiatric Developments in Underdeveloped Countries." I have received acceptances to share the round table from Sir Aubrey Lewis, Director of the Institute for Psychiatry, Maudsley Hospital, England; Dr. Tigani El Mahi, of the World Health Organization from the Sudan; Dr. T. A. Lambo, Director of the Aro Hospital, Nigeria; Dr. Mottram Torre, United Nations, and Dr. Alain Sanseigne, our psychiatrist in Haiti. I have every confidence that this round table should increase the interest of the psychiatric profession in aiding in the advancement of mental health throughout the world.

This has been an attempt not to show how much one man or one hospital can do, but to show how important and how great the needs are for international medical cooperation, how easily it can be achieved, and how anxious all countries are to be a part of it.

There is a medical void in many of these countries which must be filled and, altruistic purposes aside, if the United States does not put every effort into filling them, Russia, with three times the number of graduating physicians, will.

Respectfully,

NATHAN S. KLINE, M.D., F.A.C.P.,
Director of Research.

INTERDISCIPLINARY PSYCHIATRY

CLINICAL NEUROPHARMACOLOGY RESEARCH CENTER,
SAINT ELIZABETHS HOSPITAL,
Washington, D.C., June 26, 1959.

DEAR MR. CHAIRMAN: * * * You were kind enough to ask for my views on the subject of international cooperation for research in mental health and related areas of neurology. You further signified that I might take a little time to consider my reply. Having now done so, I have put my thoughts in the form of a short memorandum, and I hope you may find it of some value as a contribution to the overall problem with which you and your committee are concerned.

As I have tried to show, it seems to me that the large field of functional mental disease recognized by the psychoanalytic and related approaches remains almost completely divorced from neurology because of our lack of knowledge of the fundamental neural processes by which information is dealt with in the nervous system. I have attempted to account for the comparative lack of success so far achieved in this area (in relation to the work done therein), and to suggest an explanation in terms of the professional environment of the workers concerned. My thesis is that it is only by providing a double-valued environment, simultaneously in experimental biology and in the appropriate physical discipline for each worker, that the conditions for maintained creative work can be realized. Since philosophy has probably an important contribution to make in any major synthesis of ideas on nervous function, provision must also be made for a variety of philosophical background, and, since such backgrounds are inevitably linked to cultural environment, this would seem preeminently a field in which workers from more than one country should participate. It seems to me highly advantageous to have a number of small groups rather than one large one in order to maintain cohesion, and the maintenance of one such group in each of a number of countries would supply the necessary variety of background and would facilitate the international interchange of workers between these groups. This, as is pointed out in the memorandum, would, in the organization envisaged, not only benefit the research project itself, but would be simultaneously of advantage to the other work and to the teaching of the university departments involved in the scheme.

It is, of course, impossible to set out the full structure and advantages of this suggested approach in a short space; I should be happy to suggest or discuss details if you should be interested.

May I thank you again for the honor you have done me in asking my opinion and express the hope that I may have been of some little use.

Yours sincerely,

IAN C. WHITFIELD, D.Sc., F.R.I.C.,
Acting Chief, Section on Behavioral Sciences.

MEMORANDUM

There are two main headings under which mental disease has been studied. One of these is the organic in which it is postulated that there is a failure of one or more component parts of the nervous system. Such a defect may lie in the absence of the anatomical development of some part of the system, or of a failure of connection between otherwise properly developed parts of the brain. Such failures may be inborn or may develop during life through mechanical damage, disease or other cause. Alternatively there may be errors of metabolism so that some essential part of the chemistry of the system is absent or some unwanted substance accumulates. These organic disorders have, of course, received extensive study.

There is, however, another possible situation. It is that the nervous system has developed perfectly correctly and has all the appropriate parts properly related to one another and yet, since it is a system which stores its past experience and adjusts its behavior accordingly, may very well function improperly simply on account of its past treatment and not through any structural fault.

This situation has, of course, been recognized at least in part by psychoanalysis, which postulates precisely this reason for the disfunction, namely that a potentially normal organism becomes unable to behave normally purely on account of abnormal experience in its past. Psychoanalytic theory further postulates that normality can be restored by correcting the faulty information and substituting new data. This is, of course, a highly empirical approach and the theories which have grown up around the central idea can only be evaluated in terms of overall behavior and are quite unrelated to any mechanisms within the nervous system as such.

An analogy to the psychiatric situation is found in the computer field. A computer will normally carry out certain operations on data which are fed into it; it will have a consistent behavior pattern in relation to what it is normally expected to do. If some of the components of the computer are faulty it will in general exhibit abnormal "behavior" in the face of the input data. However, it is possible for a computer in perfect working order to "behave" badly. In general it is necessary to "program" a computer—in other words the way it acts depends on the stored information fed into it in the past. If it has been "badly taught" or has failed to learn the proper procedure, then it will behave wrongly, even though it cannot be considered to be in any way broken. If the results of this wrong behavior are additionally stored, matters will, of course, go from bad to worse, so that quite large behavioral aberrations can result from small errors in the past. This similarity to animal behavior is of course no more than an analogy but it is a suggestive one. The animal organism is continually taking in information from its environment through its senses, and the greater part of this information is stored (remembered) for future use. The results of its actions in response to stimulation are also stored and affect future behavior.

Thus, the study of transport and storage of information by the nervous system is equally as important as is the whole realm of organic disease, in the study of mental disorder. So far, this half has only been studied by psychoanalysis, and the latter, as has been pointed out, is not directly concerned with the brain as such, but with the behavioral manifestations of mind. It is true that studies under the general heading of Behavior have been concerned with such problems, but have done so largely in a descriptive way and have been concerned with the animal in its environment rather than with the inner working of the nervous system. If we are to understand the role of brain mechanisms in this major division of Mental Disease, an all out study of informational problems seems overdue.

Development of Information Theory

Thanks to the development of computers, tracking devices, guided missiles and similar mechanisms, a great deal of research has been done in the fields of Information and Communication Theory, data processing and computation, and goal-seeking mechanisms.

Workers in these fields have not been slow to attempt the application of the results so obtained to the nervous system. The outcome has been a plethora of schemes and models which imitate more or less faithfully many of the more obvious modes of behavior of an animal. Yet we have no idea which of these schemes, if any, bears a relation to the way in which a real nervous system operates. This is because so many of these schemes have been developed in the abstract, without the close experimental contact with the animal itself, which is essential for real progress. In other words we must study information processes in relation to the real nervous system if progress is to be made. At present literally nothing is known about the way in which information is carried, processed and stored in the nervous system, nor about the neural representation of sensations as opposed to stimuli; yet the nervous system is nothing if not an information processing entity.

How should the subject be studied?

In order to make progress in this field it is necessary to bring together the neurophysiologist—who is concerned with the detailed behavior of nervous elements; the experimental psychologist—who is concerned with the relation between stimulus situations, the elaboration of sensations and the resultant behavior; the physical chemist—who is concerned with the configuration of macro-molecules and their information content; the network engineer—who is concerned with the processing of information by elaborately interconnected sets of structures; and the mathematician—who can handle the theoretical basis of all these. Further it is *essential* that all these people should have first hand experience of animal experimentation and should have worked "at the bench" in order that their ideas be saturated by the atmosphere of the biological situation and that hypotheses be tested, again at first hand, stage by stage as they are elaborated.

This may appear at first sight to be merely another plea for "interdisciplinary research". There are many examples, of course, of mathematicians, engineers and similar workers being imported into biological departments, though few of biologists moving over to work completely in mathematics or engineering departments. This I think provides the clue as to why, in spite of these collaborations, little real progress has been made, and why the best of informational research remains divorced from biology.

If one takes a brilliant and original mathematician or network theorist, or even a physical chemist, and places him in a physiological laboratory setting, he will for a time have sufficient momentum in his subject to perform capably. However since he is not now (e.g., in the case of the mathematician) living and working among his fellow mathematicians this momentum is gradually lost and he tends to remain, mathematically speaking, at the point which he had reached when he entered the biological area, since the continued fertilization, so essential to really original creative work, as opposed to mere data collection, is missing. The very fact of this falling off in performance through transfer probably discourages the best minds from moving into the field, since they would be loath to enter a region where they could not develop themselves to the full. Yet it is essential that such people should work together in the biological atmosphere if the essential problems of their work are to be breathed in.

It may be asked why this difficulty could not be overcome merely by encouraging collaboration between members of the appropriate departments of a university. This solution too has been tried and is in my experience unsatisfactory because of the forces tending to orient main loyalties toward the department, and hence to fragment the group. This is especially a problem in the biological field where an experiment normally has to occupy a lengthy and continuous period of time. Since each man's prime commitment is to the head of his own department, collaboration is difficult timewise even between two such people, and among three or more it becomes virtually impossible. Further, since professional advancement tends to come from within the department, rather than from the collaborating group which has no *locus standi*, there is further pressure to put forth primary effort within the department rather than outside it. It would appear then that neither the isolated research institute, nor the university department as a collaborative component, provides a satisfactory solution of this particular problem.

The solution would appear to be to set up a unit or small center, within which representative members of the appropriate disciplines could work together, and to which they would be primarily responsible. This unit would comprise, say, a mathematician, an experimental psychologist, a physical chemist, a physiologist, etc. The major portion of their time would be spent in research work in the unit. Each person would however (and this is regarded as the key point) be seconded as an additional member of the university department within which his discipline fell, and would spend a not insignificant portion of his time in teaching, and possibly collaborating in research in, the pure discipline. In this way each member would have most of the advantages of continuing to live within his own subject and have interchange with workers in other parts of the field, without having a split loyalty. Such an organization would facilitate the temporary or permanent engagement of workers from many countries, enabling the bringing together of the people most fitted to carry through a project of this nature. At the same time it would give the departments of the university concerned the benefits of the different approach to their own subject which such people would bring. It is essential for its proper working that such a center should be geographically contiguous with the university departments concerned, though it need not necessarily be a part of the university. It would not, for example, be adequate for workers to be attached to departments on a visiting basis—they must be able to "live within" both halves of their assignment.

In order to preserve cohesion, it is important that such a unit, if successful, should not be allowed to grow too large, otherwise the advantages of close collaboration become irretrievably lost. Experience indicates that a group of 10 or 12 persons is a suitable maximum, beyond which it becomes difficult to get free interchange on an equal footing. There are many examples of this historically and it is for example, perhaps not entirely fortuitous that there were 12 Apostles. It is better that expansion should take place by the replication of such units, and that these preferably be spread through other countries. The subject is one in which philosophies are as important as anything else in making the leaps of the mind necessary to achieve success. Such factors are excellently absorbed via the cultural background of the country in which one lives, and the greater the variety of these the more likely is it that a synthesis will emerge.

The movement of workers from many countries among several such small centers would be of the greatest utility in furthering such a synthesis, and would form an important second stage in the development of the scheme.

Summary

1. That mental disease is as much a function of incorrect environmental treatment, as of anatomic or metabolic error in the organism has been recognized by the psychoanalytic approach.
2. The study of the correct or incorrect input of information to an organism and the storage thereof can be considered as a branch of the wider subjects of Information Theory and Data Processing.
3. The biological applications of these subjects are at present studied mainly abstractly and have thus not yielded more than a fraction of the value of which they are capable.
4. Such fundamental studies would be of tremendous importance in elucidating the physiology of functional mental disorder.
5. The reasons for the slow progress at present being made are examined and suggestions for a new approach are given.
6. The setting up of research units on an international basis, along lines which, it is felt, would overcome the present difficulties, is proposed.

MARINE BIOLOGY

STATIONE ZOOLOGICA,
Naples, March 17, 1960.

DEAR SENATOR HUMPHREY: * * *

We certainly welcome the opportunity of helping you and your Subcommittee on International Organizations in whatever way we can in the task you have so encouragingly undertaken: that of assessing on the broadest basis the contribution to world health made by research institutes receiving international Federal aid.

I see that you would like specific understandable illustrations of the role that marine biology has played in advancing human health. By far the greater part of the world's animal life is found in the sea, both in total numbers and diversity of major forms; it maintains populations of an order of magnitude several times greater than the largest found on land. Much of biology in general is marine biology. Some of the examples which I have chosen belong to branches of cell biology in which the principles demonstrated apply to organisms throughout the plant or animal kingdoms, including man; all of them relate to work performed at the Naples Zoological Station.

Fertilization, Early Development and the Biochemistry of Growth.—In the field of experimental biology the sea urchin egg—and to a less extent, the sea squirt egg—has contributed more to our knowledge of the processes of fertilization and the earliest stages of development than that of any other animal. The study of the first hours of development in the human or other mammal is surrounded with difficulties which until recently were insuperable, because the egg develops within the body at a constant temperature and only one or at most a few ripe eggs are produced at the time. Sea urchin eggs and sperm can be obtained by thousands at marine stations. Different species are collected daily from the Mediterranean where ripe specimens can be found all the year. They fertilize and develop in sea water, and all stages can be followed in the laboratory; they have been studied since the early days of experimental marine biology, and have allowed biologists (e.g., the Lillies and Lord Rothschild) to determine the basic requirements for successful development—the number of sperms required for fertilization, the influence of the egg on the sperm and of the sperms on the egg, the chemical and structural changes in the egg that accompany the fertilization process, etc.

More recently sea urchin eggs have been used to investigate biochemical changes during the first hours of life of a new individual. A hitherto unknown enzyme present in high but decreasing concentrations during the first stages of the developing egg has been found. The enzyme has since been looked for and found in lower concentrations in mammalian organs, particularly in the early embryo and other rapidly growing tissues including tumors. It is responsible for an important step in the synthesis of DNA (desoxyribonucleic acid, the most characteristic constituent of the nucleus of the cell). The enzyme may have a part to play in the control of both normal and cancerous growth.

Nuclear-Cytoplasmic Relationships.—Cancer consists of a breakdown in the normal organization existing within cells and between cells; there is disruption in the balanced control of the cytoplasm of the cell by the nucleus. The study of communication between these two parts of the cell in the healthy organism is therefore of great interest, and of importance in the understanding of what constitutes abnormal growth. Marine organisms, as well as terrestrial, are contributing to this study: for instance, in the single-celled alga Acetabularia it is possible to remove the nucleus and study its influence on the rest of the plant's life history without killing it. At a biochemical level the relationship between nuclear DNA and cytoplasmic RNA (ribonucleic acid) is being carried out on sea urchin and other eggs, and young stages. Differences in the fertilized egg due to the different roles of the nuclei derived respectively from the father and the mother have been brought to light by Boveri, and by Baltzer and Ubisch working on sea urchin eggs and Hartmann's important researches on relative sexuality in algae have contributed to sex determination theory.

Nerve Function.—A major advance in our understanding of nerve function and in techniques for recording the electrical changes in nerves during stimulation and under the effects of drugs has a basis in marine biology. While working on the comparative anatomy of cephalopods (octopuses and squids) at the Naples Zoological Station, J. Z. Young (1929) found a small structure in the octopus consisting of nerve cells: the structure could not be seen in squids, but on examining the same part of its body for comparison he found that the cells present have a nerve fibre several times thicker in diameter than any other nerve fibre known. This fibre is the so-called squid "giant axon" which, as a result of the work of A. L. Hodgkin and A. F. Huxley, provided in 1939 the first example of a recording of electrical events from inside a living cell. Microelectrode techniques have since been developed for recording from the inside of single cells of the mammalian nervous system and are now widely used for studying patterns of interaction of one nerve unit with another, including the effects of use, disuse, and learning on these patterns.

At a different level of nerve function, the brain of the octopus has provided a model for the understanding of the way in which all brains may work. The animal is easily kept, easily operated, and both its brain and behavior show certain simple features which mean that more fruitful studies have been obtained from examination of the octopus brain and behavior than from mammals with a comparable amount of study. At the same time the brain of the octopus is highly organized and shows important similarities with the mammalian brain. For instance, with its highest centres removed an octopus behaves in a way that is comparable with the behavior of a leucotomized human patient.

You will see that none of these examples refer to the fight against disease. I can point to no single clear example where the cure of a disease or a major advance in pathology has been made through research on marine organisms. In this immediate field marine biology is making a relatively very small contribution. Examples that come to mind are from the applied field of fisheries investigation: vitamin extraction, and pollution studies—the isolation of poisons. The horizons of marine biology have remained clear of the short distance perspectives of the battle against disease.

In conclusion, I choose a set of apparently isolated facts which may yet prove to be of importance in human health. Certain species of single-celled plants build a skeleton of strontium. The skeletons of single-celled plants falling to the sea bed contribute substantially to the ooze which covers it. Over millions of square miles of the Pacific, between 2 and 5 percent of the ooze may consist of the skeleton of a single species. Populations of marine animals and plants undergo changes in size and distribution as a result of major physical fluctuations in the oceans. The ecological study of the gut contents of fish shows that many fish are highly selective in their feeding, eating particular species present in the plankton but not feeding on other closely related ones. The feeding requirements of individual organisms are related to the need for particular chemical constituents in the food. Animals tend to excrete or concentrate the product of their digestion. Strontium is metabolized in a similar way to calcium. It becomes concentrated in the bones of mammals.

Only by continuing the expansion of all branches of marine biology—systematics, comparative anatomy, ecology, physiology, biochemistry—and of oceanography, may an answer be reached to the question of how far it is likely that dangerous minerals will be carried out of surface waters and deposited on the depths by natural processes, or to what extent present and future fallout of radioactive substances may affect the health of peoples depending on the sea for their food.

I hope that this satisfies your requirements, and that it will prove useful despite all the other things that you have to occupy yourself with at this moment.

Sincerely yours,

DR. PETER DOHRN,
Director, Naples Zoological Station.

NURSING

THE INTERNATIONAL COUNCIL OF NURSES,
London, England, February 25, 1960.

DEAR SIR: I am writing with further reference to your letter dated October 1, 1959, and in connection with the International Health Study being undertaken by the Subcommittee on Reorganization and International Organizations of which you are chairman. The International Council of Nurses appreciates the opportunity to contribute toward this study, and ventures to forward to you the following information.

The International Council of Nurses (ICN) is a federation of National Nurses' Associations: one of our most active member associations is the American Nurses' Association, and we value the support and cooperation which this association gives us. At the present time associations in 46 countries are in active membership, and in a further 21 countries the nurses have national associate status with the ICN. Individual membership of the ICN is approximately 460,000. Through these contacts with national nursing organizations and with individual nurses, the ICN can claim to exert a worldwide influence on nursing affairs and the improvement of health.

As a nongovernmental organization in official relationship with the World Health Organization, the ICN is on the Consultative Register of the Economic and Social Council, and nominates representatives to attend meetings at United Nations headquarters.

In this way members of the ICN are kept in touch with United Nations activities, and in particular with those activities which are specifically concerned with health and social welfare.

ICN headquarters, which is in London, maintains an Information Centre on all aspects of nursing and through this centre is responsible for collecting information on nursing (or on matters related to nursing) from all parts of the world, and distributing this information to all parts of the world as and when required.

The following organization pattern at ICN headquarters facilitates the collection and distribution of relevant material, and enables the ICN to give advice and guidance to its member organizations and other authorities.

1. General Administration

Apart from the administrative planning of headquarters activities, such as plans in connection with field visits, committee meetings, conferences and congresses, reception of visitors, distribution of professional material, etc., the ICN is concerned with the promotion and development of professional organization at the national level, and in this way supports and strengthens the nursing profession in the management of its own affairs and its relationships with other health and welfare organizations as well as with the general public.

2. Division of Nursing Service

The aim of this division is to encourage and maintain the highest standards of nursing practice in all fields of nursing. In an attempt to regularize these standards, the division is currently carrying out a study on nursing legislation, which includes the assemblying of laws pertaining to nursing, from those countries where legislation has already been enacted. Subsequent to this study, an attempt will be made to establish sound principles for the guidance of those countries which are attempting to draft a nursing law, or to bring about changes in existing legislation.

The Nursing Service Division is also concerned with needs and resources in nursing, and recognizes the importance of establishing right relationships between auxiliary and professional nursing personnel. In this connection the division is carrying out a preliminary investigation into the functions of existing auxiliary nursing personnel; and later an attempt may be made to define the functions of the professional nurse, which in turn should preclude a study of the preparation of both groups.

3. Division of Nursing Education

This division maintains an Information Centre on all aspects of nursing education, and an Advisory Educational Service is offered to national nurses' associations, as well as to other organizations and to individual nurses. Research is promoted in nursing education and is from time to time conducted through studies and conferences by the staff of the Nursing Education Division.

4. Department of Information on Professional Qualifications

This department assists in clarifying the credentials of nurses seeking employment outside their own countries so that they may be accorded comparable status in the country of employment. These nurses may be applying for temporary employment for the purpose of enriching their experience; or for permanent employment after the necessary formalities of immigration and registration have been complied with. Many of these nurses are refugees, and the ICN maintains a professional register of some 4,000 refugee nurses whose credentials have been established, and is ready to assist them with personal and professional problems.

5. Department of Publications and Public Relations

In the field of communications the ICN has a responsibility for spreading knowledge on nursing and on new trends in nursing on a worldwide basis amongst its members; and also for assisting national nurses' associations to bring before the general public a true picture of the nurses' contribution to the health and well-being of the community. These objectives the ICN attempts to achieve through the publication of an international journal, the "International Nursing Review," which is published every two months; the distribution of a monthly news letter, and the appointment of press officers and of editorial consultants.

With reference to the final paragraph of your letter, I would venture, on behalf of the ICN, to submit the following suggestions:

(*a*) *Highest priority needs.*—Needs in nursing in the less developed countries would seem to be as follows:

(1) A general educational level for the country which will ensure a sufficient supply of well-educated candidates for entering schools of nursing.

(2) A standard, accepted nationally, for a progressive system of basic nursing education controlled by legislation.

(3) Opportunities for post-basic nursing education to prepare teachers and administrators, and for purposes of specialization in the various fields of nursing.

(4) The availability of scholarships or fellowships to enable nurses to obtain advanced preparation for leadership outside their own countries, particularly when opportunities for post-basic nursing education are not available in their own countries.

(5) An economic and social status for nurses which will ensure adequate salaries, and good living and working conditions comparing favourably with other professions.

(6) Sufficient numbers of professional and auxiliary nursing personnel to fill the needs of the health services, both preventive and curative, and to provide institutional and domiciliary care.

(7) A stable professional organization representative of the nurses of the country which can voice the needs of nursing and speak with authority on behalf of the profession.

(*b*) *Specific obstacles (financial or others).*—These would appear to us to be—

(1) Inadequate opportunities for general education.

(2) Poor social status of nursing and low status of women.

(3) Inadequate remuneration of nursing personnel arising from limited financial resources.

All of these obstacles may be related to a lack of understanding on the part of government health and education departments of the needs of nursing and of the vital part the profession should play in improving the health and welfare of the community.

(*c*) *Specific suggestions for overcoming obstacles to international health.*—

(1) More enlightenment on the part of national governments so that nurses are recognized as an essential part of the health team.

(2) Better educational facilities both as regards general and professional education.

I venture to quote from the Report on the First Session of the Expert Committee on Nursing of the World Health Organization—

"In countries where medicine is highly developed and nursing is not, the health status of the people does not reflect the advanced stage of medicine. Nursing is essential to the vitalization of the health programme."

I trust, Sir, that the above suggestions may be given consideration by your subcommittee in connection with the International Health Study on which it is engaged.

Attached is a list of publications which are being sent under separate cover and by sea mail.

Yours sincerely,

DAISY C. BRIDGES, *General Secretary.*

INTERNATIONAL COUNCIL OF NURSES

List of Publications

Constitution and By-Laws (Revised 1957)
Information pamphlet, The ICN—What it is . . . What it Does . . . How it Works
The International Code of Nursing Ethics
Pamphlet entitled, Exchange of Privileges for Nurses
Pamphlet entitled, Planning International Study Groups
International Nursing Review, February 1960
International Nursing Review, July 1959 (Jubilee Issue)
International Conference on the Planning of Nursing Studies (Held in Sèvres, France, 1956)
National Reports of Member Associations (last published 1957)
Report of the Economic Consultant, 1957

Other educational publications available are as follows:
The Basic Education of the Professional Nurse (Published 1934; reprinted with amendments 1949)
An International List of Advanced Programmes in Nursing Education (Published 1954, and Supplement published 1958)
How to Survey a School of Nursing (Illustrated with examples of five post-basic schools)
Post-Basic Nursing Education: Principles of Administration as applied to Advanced Programmes in Nursing Education
Basic Nursing Education: Principles and Practices of Nursing Education

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RHEUMATOLOGY

SECOND PAN AMERICAN CONGRESS ON RHEUMATIC DISEASES,
AMERICAN RHEUMATISM ASSOCIATION,
Washington, D.C., February 4, 1959.

DEAR SENATOR HUMPHREY: I am pleased indeed to receive your letter of January 26 inviting us to communicate with you and your associates concerning the opportunities of Pan American health cooperation in the field of rheumatic diseases.

In June 1944 the Pan American League Against Rheumatism was established, largely as a result of the efforts, inspiration, and foresight of the late Dr. Ralph Pemberton, of Philadelphia, a past president of the American Rheumatism Association, and with the help of Dr. Anibal Ruiz Moreno, of Buenos Aires.

In 1955 the first Pan American Congress on Rheumatic Diseases was held in Rio de Janeiro and São Paulo. We are now making plans for the second Pan American Congress to be held in Washington, D.C., and Bethesda, Md., June 2 to June 6, 1959.

Through the medium of the league, exchange of scientific and clinical information is effected. In addition, a number of South American physicians come to arthritis centers affiliated with medical colleges and universities in this country for training and fellowships.

Recently a scientific journal called the Archives of Interamerican Rheumatology was introduced in South America. The editors of this journal are Dr. Israel Bonomo, of Rio de Janeiro, and Dr. M. Mizraji, of Uruguay. On the editorial board of this journal are seven members of the American Rheumatism Association, five of whom are past or current presidents of the American Rheumatism Association. In this journal there is reprinted regularly one issue of the Bulletin on Rheumatic Diseases, which is the official publication of the Arthritis and Rheumatism Foundation of this country. In the membership of the American Rheumatism Association are included physicians from 10 Canadian cities, Mexico, Argentina, and Venezuela.

In general, communication, exchange of information, mutual stimulation, and interest are growing satsifactorily, and an excellent relationship has been established.

I trust this is the information you desire. If I can be of additional service, please let me know. I shall be privileged to hear from you.

Sincerely yours,

JOSEPH J. BUNIM, M.D.,
Cochairman, The Congress Committee.

OPHTHALMOLOGY

280 YOUNG HOTEL BUILDING,
Honolulu, Hawaii, November 3, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for your letter of October 19, 1959, and the publications that you enclosed.

You might be interested to know that your comprehensive, stimulating report, "The United States and the World Health Organization," at first aroused my interest in research in ophthalmology on an international scale.

In searching the literature, talking and corresponding with leaders of ophthalmology in Europe, Asia, Australia, and the Americas, I have become more and more convinced of the tremendous potentials of international cooperative research.

As a result of my previous visits to Asia and Australia, I have been asked to address next year the annual meetings of the Pan American Association of Ophthalmology to be held in Caracas, the Asia-Pacific Academy of Ophthalmology to be held in Manila, and the Ophthalmological Society of Australia to be held in Sydney, on the subject of "International Ophthalmologic Research."

Due to the substantial variations that exist in the frequency of myopia, uveitis, glaucoma, cataract, sympathetic ophthalmia, diabetic and hypertensive retinopathy, there is considerable worldwide interest on cooperative research projects on these subjects.

As I thought that you might possibly be interested in some of my previous reports on regional ophthalmology, under seperate cover I am sending several reprints. I am also sending you, with my compliments, a multiauthored textbook, "Geographic Ophthalmology," published by the Charles C. Thomas Publishers, of Springfield, Ill.

I am well aware that this book has many shortcomings. I am sending it to you because, in my opinion, its principal value lies in the fact that the contributors come from many parts of Asia and Australia, and that the book gives them, and through them, their colleagues, an opportunity to express their ideas in print.

I would be grateful to you for sending me your entire future series on publications dealing with international medical cooperation and research.

With Aloha, I am,

Sincerely yours,

WILLIAM JOHN HOLMES, M.D.

DENTISTRY

NATIONAL INSTITUTES OF HEALTH,
Bethesda, Md., September 1, 1959.

DEAR SENATOR HUMPHREY: I should like to reply to your recent letter calling our attention to the International Medical Research Study being conducted by the Subcommittee on Government Operations.

There are several specific illustrations of ways by which dental investigators at the National Institute of Dental Research have made contributions to the international advancement of science in this vital field.

A. In cooperation with the Interdepartmental Committee on Nutrition for National Defense, the National Institute of Dental Research has been engaged in a study to compare the prevalence of oral disease in individuals living under relatively civilized conditions with individuals in primitive villages. Based on studies in Alaska, Peru, Ecuador, and Ethiopia, evidence points to the relative rarity of dental caries and periodontal disease in the primitive groups. Since existing hereditary oral disease patterns in isolated population groups are rapidly being influenced and altered through assimilation into surrounding populations, it is of vital importance that these studies be pursued with vigor. By continued emphasis on epidemiologic methods of study, particularly as related to incidence, cause, and mechanisms of disease progression, significant leads and possible breakthroughs might be realized in such areas of concern as dental caries, periodontal disease, and oral and facial anomalies of development, including harelip and cleft palate.

B. International conferences and other meetings have contributed most effectively to the communication of knowledge between scientists and an opportunity to engage in intellectual cross-fertilization.

C. Exchange of foreign and United States scientists with assignment to laboratories for sufficient periods to permit the learning of new techniques and methodologies of research, as well as an interchange of information and ideas essential to the progress of international health.

By ever-increasing encouragement and support of international cooperation among dental scientists through such avenues as listed above, a greater benefit to mankind will be realized.

I hope that this information will be of some help to your committee in its efforts to conduct an international biomedical research survey.

Sincerely yours,

SEYMOUR J. KRESHOVER,
Associate Director, National Institute of Dental Research.

MEDICAL RECORDS

AMERICAN ASSOCIATION OF MEDICAL RECORD LIBRARIANS,
Chicago, Ill., November 16, 1959.

DEAR SENATOR HUMPHREY: The American Association of Medical Record Librarians would be very happy to secure copies of the future publications referred to in your letter of September 24, 1959, particularly the publications entitled "Patterns of Incidence of Certain Major Diseases Throughout the World," "The National Science Foundation and the Life Sciences," and "Rehabilitation of the Disabled in 37 Countries of the World."

The American association is about to participate in the Third International Congress on Medical Records which is scheduled in Edinburgh, Scotland, the week of April 25, 1960. This represents the third such Congress which the association has participated in and it is anticipated that at this Congress an International Medical Record Federation will be formed. At the present time, the membership of this Federation consists of the Associations of Medical Record Librarians of England, Canada, Australia, and the United States.

It is hoped that this international Federation will encourage the education and training of medical record librarians in countries where currently there is no such professional group. We have found from past experience that there is a great interest on the part of many of the foreign countries in developing sound medical records programs in hospitals and institutions caring for the ill but the major difficulty, even here in the United States, is that there are not a sufficient number of professional trained personnel to carry out the necessary programs.

It would seem to me that the Federal Government could do a great deal to assist the medical record profession if it made available to young students some sort of a scholarship which would enable them to enroll in formal teaching programs. At the present time, the number of approved schools in the United States is rather limited and although we are making every effort to see that the curriculum is included in the regular university and college program, we are experiencing considerable difficulty in finding a sufficient amount of money to both recruit and publicize the field. At the present time there are only a limited number of students that can be accepted in the approved schools and if we were to enroll very many from foreign countries who are desperately in need of having members from their country receive education, we would not be in a position to take care of the interested persons in the United States. It appears, therefore, to me that the Federal Government could do a great service by making it possible for students to enroll in educational programs through the granting of scholarship funds and also encourage the universities and colleges to instill more educational programs for persons desiring to seek education in the health career programs.

Sincerely,

DORIS GLEASON, RRL, *Executive Director.*

MEDICAL TECHNOLOGY

THE AMERICAN SOCIETY OF MEDICAL TECHNOLOGISTS,
Minneapolis, Minn., October 27, 1959.

DEAR SENATOR HUMPHREY: * * * There is growing interest among the members of the American Society of Medical Technologists in international relations as they effect the exchange of technical information and personnel as well as organizational structure. The committee prints and explanatory memorandum are being forwarded to the office of the executive secretary of the society (Miss Rose Matthaei) so that a reply may be sent to you in the detail which is not available to me at the present.

The executive office will be pleased to assist you in your efforts in the international medical research study. We will hope to hear from you again as the work of your committee continues.

* * * * * * *

Sincerely,

RUTH I. HEINEMANN, M.T. (ASCP), *President.*

SANITARY ENGINEERING

ASOCIACION INTERAMERICANA DE INGENIERIA SANITARIA,
Cincinnati, Ohio, December 22, 1958

MY DEAR SENATOR HUMPHREY:

* * * * * * *

The opportunity to provide information concerning AIDIS to your subcommittee is thoroughly appreciated. Perhaps a brief history of AIDIS would provide useful background for your consideration and evaluation of our activities.

I. History

During World War II a series of public health, educational, agricultural and other cooperative activities were initiated and carried on throughout Latin America, first by the Coordinator of Inter-America Affairs, later continued by the Institute of Inter-American Affairs and currently expanded under the International Cooperation Administration. A most important part of this program was the sanitary engineering phase carried on as part of public health programs in most of the countries.

After several years' operation of these programs, a need for some medium for the exchange of ideas became evident. This resulted in the inspiration to form an association which would be dedicated to the broad field of sanitary engineering and environmental sanitation activities. Following preliminary organizational meetings in Rio de Janeiro, Brazil, and Caracas, Venezuela, in 1946, the Inter-American Sanitary Engineering Association (AIDIS) was founded.

The purpose of the association is stated as follows in the constitution:

"* * * is to obtain, through common agreement, the solution of sanitation problems and to establish uniform standards for the continuous protection of the health of the people in this hemisphere. These objectives will be accomplished by the following means:

a. Development of sanitary engineering.

b. Interchange of ideas and scientific information and techniques relating to the development of sanitary engineering.

c. Establishment of common standards and uniform terminology in sanitation technology.

d. Promotion of a more rapid advancement in the sanitation of various countries as a necessary basis for their economic and social development.

e. Establishment of good will and better understanding among those individuals and groups engaged in hygiene and sanitation work toward which end the association will collaborate closely with the Pan American Sanitary Bureau and with other private and governmental agencies which are hemispheric in scope."

To provide opportunity and a medium for exchange of ideas and for carrying on the normal business of the association, international Congresses have been held biennially as follows:

1st Congress—San Diego, Chile, 1948
2nd Congress—Mexico City, Mexico, 1950
3rd Congress—Buenos Aires, Argentina, 1952
4th Congress—Sao Paulo, Brazil, 1954
5th Congress—Lima, Peru, 1956
6th Congress—San Juan, Puerto Rico, 1958

The next Congress is scheduled for Montevideo, Uruguay, in 1960.

At these various Congresses, technical papers and discussions form the principal activities, furnishing participants, members and other technical personnel in the health field valuable base information for executing their everyday operations in the home country.

The membership is composed of some 1,500 members, sanitary engineers, chemists, biologists, sanitarians, malariologists, professors, and other professional and technical people engaged in the battle throughout the Americas to improve man's lot through sanitary engineering endeavors. The proceedings are carried in three languages in addition to English: Spanish, Portuguese, and French.

II. Activities

The activities of AIDIS are concerned with both the professional and technical aspects of sanitary engineering in the Americas. It is the one professional society dedicated to the entire broad field of sanitary engineering, bringing under a single fold the activities which here in the United States are fostered

by such varied associations as the American Society of Civil Engineers, the American Water Works Association, the American Public Health Association, the Federation of Sewage and Industrial Wastes Associations and other rather specialized professional groups.

Sanitary engineering is the science and art of producing, by all possible means, safeguards to the environment of man to provide a healthful existence and full enjoyment of life. Only by providing good control of such elements as our water supply, sewage, food, etc., can a basis for public health activities be assured. For example, until a community has a safe and adequate water supply, other health programs are hindered by the necessity for providing treatment for reoccurring ills, such as intestinal diseases. Our own public health history has provided vivid proof of this basic concept. Sanitary Engineering may be considered the first echelon and very foundation of any comprehensive health program.

The importance of adequate water supply on public health was given prime recognition at the last AIDIS Congress held in San Juan, Puerto Rico, in March 1958 by deciding at that time to devote the next Congress to the general theme of "Water." Added emphasis is being given to this same subject, "Water," by both the World Health Organization and International Cooperation Administration of our own Government as evidenced by the plans which are now being drawn up. This is one example of how the activities of the association are geared to the needs and programs in the hemisphere.

President Thomas P. Browne, Export Manager, The Permutit Company, 50 West 44th Street, New York 36, New York, has appointed the following committees to carry out the objectives of the association:

Committee on Sanitary Engineering Terminology
Rural Sanitation
Remuneration of Sanitation Engineers and Technical Personnel
Journal Advertising
Education of Sanitary Engineers
Standards of Practice
Stream Pollution Prevention
Recruiting of Student Members

In addition, the Uruguayan Section is preparing for the next Congress in Montevideo. Requests have been sent to all member countries inviting each section to study and prepare an evaluation of their water supply needs and programs with the aim of providing the basis for the next Congress to make recommendations in support of a general program for the improvement of water supplies throughout the hemisphere.

III. General Comments

A Pan American Sanitary Bureau subsidy, which was discontinued about two years ago, had been dedicated to publication of the journal. This journal is the primary link among the members and the member sections, distributed in the 21 American Republics, between Congresses. When the Pan American Sanitary Bureau withdrew its support the Ministry of Hydraulic Resources in the Republic of Mexico financed the journal for a period. The publication is now standing on its own legs and we hope to be able to continue this through advertising revenue and the payment of dues. With the difficulty of international exchange, there are many cases in which we have not been able to receive the dues from the member sections to provide the financial support for the journal. This is one of our current problems. However, the Mexican Section, which has done an outstanding job, has been publishing the journal successfully since 1953.

As you can well recognize, a professional organization of this type provides the medium for the exchange of ideas and the engendering of true understanding and good relationships among its members. It provides sanitary engineers in the United States opportunity to make a contribution to their profession, and further provides a common ground whereby a two-way street of technical exchange can be utilized to the benefit of both parties. Fine professional contact throughout the hemisphere is available at no cost to the United States Government.

While it is difficult to evaluate the effects of a professional society, we feel that AIDIS has done much to raise the prestige of the sanitary engineers in Latin America, providing both inspiration and stimulus to achieve many improvements in practice. These improved practices have resulted in greatly raised

health levels in the various countries. AIDIS has served to round out the formal activities of the International Cooperation Administration and Pan American Sanitary Bureau in a manner comparable to that of our professional societies here in the United States. It will have increasing influence in shaping sanitary engineering practice as the organization grows.

Attached for further background information are the following:

1. A partial list of prominent American sanitary engineers who are active members, many of them charter members, of AIDIS.

* * * * * * *

May I point out that the officers of the association serve without compensation. The only paid services are those in connection with the publication of the journal. Even here much professional effort is expended on a contributory basis.

I hope that the above will provide information you need for the important task you are undertaking. I will be pleased to provide any further information or answer such questions as you may have. It is gratifying to learn of interest in our international activities and an honor to be called upon by the Senate of our country.

Respectfully,

F. W. MONTANARI, *Secretary-General.*

Partial list of prominent American sanitary engineers who are members of AIDIS:

Prof. H. G. Baity, Director, Division of Environmental Sanitation, World Health Organization.
Prof. Herbert M. Bosch, School of Public Health, University of Minnesota.
Prof. Ernest Boyce, Ann Arbor, Michigan.
Edward J. Cleary, Executive Director and Chief Engineer, Ohio River Valley Water Sanitation Commission.
V. M. Ehlers, Director, Sanitary Engineering, Texas State Board of Health.
Prof. Gordon M. Fair, Harvard University.
Prof. John C. Geyer, Johns Hopkins University.
Dean Harold B. Gotaas, Technical Institute, Northwestern University.
Harry B. Jordan, Secretary, American Water Works Association.
Prof. Daniel A. Okun, University of North Carolina.
Clarence I. Sterling, Jr., Deputy Commissioner of Health, Massachusetts.
Prof. Abel Wolman, Johns Hopkins University.

(It is interesting to note that Dr. M. G. Candau, Director General of World Health Organization, is a charter member and member of the U.S. section.)

ENDOCRINOLOGY

NATIONAL INSTITUTES OF HEALTH,
Bethesda, Md., July 30, 1959.

DEAR SENATOR HUMPHREY: It is a pleasure to answer your letter of July 13th about international medical research because the international character of science is one of my favorite subjects. In addition, I have a personal interest in the subject because of a recent trip to Russia sponsored by the State Department, as well as the character of my laboratory, which includes from two to four foreign scientists.

The first question posed in your letter was the documentation of the international character of bio-medical science. Perhaps I can best answer this through recounting my personal experiences over the last 10 years in my field of interest—endocrinology and thyroid function. About a dozen years ago, at the National Institute for Medical Research in England, a method for the separation of substances by paper chromatography was developed. This has been extensively utilized throughout the world, and we now employ one or another modification of this technique every day in the laboratory. Seven years ago in England (also at the National Institute for Medical Research), Gross and Pitt-Rivers isolated and identified a new thyroid hormone. This has changed some of our older concepts and precipitated a great volume of important work on the active form of the thyroid hormone. In France, in the last 10 years, Professors Roche and Michel have demonstrated a new pathway for iodine metabolism in the thyroid. This has completely changed our concepts about the precise manner of synthesis of the thyroid hormone. I know these people personally; we visit with each other

at international meetings; and if they are in the United States, they spend some time in my laboratory. As a result of these contacts, we exchange ideas and results before they can be published. We exchange compounds which require special syntheses and our researchers are greatly facilitated thereby. Dr. Robbins, in our laboratory, has developed a new technique for electrophoresis, and a Japanese, a Thai, several Englishmen, and a Frenchman have recently come to our laboratory to observe and learn the details of this procedure. One of the interests in our institute is the study of certain serum proteins which are clearly seen in samples of monkey blood. Since the only colony of monkeys in which large numbers of these animals are available and in whom the family tree is accurately known is in the Soviet Union, on my recent trip to Russia I inquired if we might study several hundred blood samples from their monkey colony. They were happy to cooperate and we would expect this to increase our understanding of the inheritance of certain protein patterns. Unfortunately, we have not yet received the samples.

The second question in your letter concerns specific recommendations for ways to strengthen international cooperation, on which I have the following observations:

One of the absolute essentials for international cooperation and, indeed, for efficient scientific progress is a free-flow of published scientific work. This has recently become considerably easier with respect to the so-called "Iron Curtain" countries (as pointed out in Report No. 160 of the 86th Congress, First Session, on International Medical Research), since the exchange of reprints with these countries is now readily accomplished. Freedom to ship scientific samples such as the bloods from the Russian monkeys which we hope to obtain from them, or the pituitary hormone preparations and unusual iodinated amino acids which I have sent to the Soviet Union, are examples of international cooperation which can lead to mutual scientific progress. Corollary to a free flow of published work is the freedom to write to each other and to talk with each other without worry of political implications. A problem which is being quite well met currently is the translation of foreign articles into the English language. Scientific traditions have long made scientists tri-lingual, but the recent expansion in work published in the Russian language has made translation of this work imperative. I would hope that along with this would be stimulation of training in the Russian lanaguage itself so that the somewhat unsatisfactory prop of translation can be dispensed with when the younger generation of scientists enters the laboratories.

A second important requisite for strengthening worldwide cooperation is personal contact between scientists of different countries. This may occur at international meetings which are, I imagine, where most personal contacts are first made. A second step, and one which is perhaps inadequately exploited at the present time, is short (four to six weeks) visits of scientists among the different countries. Finally, the most important contacts between individuals in different countries is achieved through international fellowships for a year or more. These methods of promoting personal contact amongst scientists of the different countries can best be encouraged by financial support. On a personal basis a trip to Europe for almost any scientist is financially difficult. However, the total sum required to support a really substantial amount of foreign travel both by American and foreign scientists is, by international terms, trivial. Hence, financial support for these various types of international travel could, I think, bring great returns.

Finally, to scientists in the laboratory, it is encouraging and heart-warming to realize the intelligent and friendly interest with which our problems are considered in the Congress of the United States. I know that we at the National Institutes of Health are deeply grateful for the opportunity provided us to work under such favorable conditions.

Sincerely yours,

J. E. Rall, M.D., Ph. D.,
Chief, Clinical Endocrinology Branch,
National Institute of Arthritis and Metabolic Diseases.

INTERNATIONAL SPORTS RESEARCH

Senator HUMPHREY. For many months I have been exploring problems of strengthening physical fitness of the Nation. It was with gratification therefore that I noted the outstanding article by President John F. Kennedy in the December 27, 1960, issue of Sport Illustrated. One of the points urged by the President was an expanded program of research into fitness. This is the theme of an earlier memorandum which had been sent to members of the UNESCO Research Committee, International Council of Sport and Physical Education.

It was prepared by Prof. Ernst Jokl of the University of Kentucky in Lexington. Professor Jokl is President of the Research Committee of the International Council of Sport and Physical Education and has been in touch with us over a period of many months. So, too, has a prominent member of the committee, Professor W. Raab, M.D., Professor of Experimental Medicine, University of Vermont, College of Medicine, Burlington, a distinguished cardiovascular expert, long active in the field of reconditioning for fitness.

I believe that this memorandum will confirm in part how important it is that the United States and other nations proceed with dispatch to develop comprehensive national programs for the physical fitness of youth and adults alike. We have much to learn in this respect from considerable experience on the European continent. In my personal judgment we should have research "chairs" in many American universities in physical fitness. The memorandum follows.

To Members of the Research Committee, International Council of Sport and Physical Education:

At its meeting held at UNESCO Headquarters in Paris, France, on September 27, 1958, the International Council of Sport and Physical Education resolved to establish a Research Committee under the presidency of Professor Ernst Jokl, of Lexington, Kentucky (U.S.). The Committee's task is to promote scientific and cultural studies of global significance and to provide conceptual guidance for the sport and physical education movement all over the world.

Following the Council's meeting at Helsinki, Finland, in 1959, the functions of the Research Commitee were further clarified in consultation with the Council's President and Vice-President, Professors Duras and Munrow, as well as with the Council's Institute in Gauting. It was agreed that a detailed research program be submitted at the Council's Assembly in Rome in September 1960.

The constitution of the Research Committee on which outstanding experts from several countries have agreed to serve was confirmed at the meeting of its Executive Board held during the Olympic Winter Games at Squaw Valley, California, on February 24, 1960. The Executive Board feels confident that with the resources of knowledge available, the Committee's task of elaborating a scientific magna charta of international sport and of physical education will be successful. The Board is convinced that no educational subject can reach maturity without the constant interplay between praxis and theory and close cooperation between the Council and the Research Committee will reflect such interplay.

The empirical phase of development of sport and physical education is rapidly approaching its close. It is the function of discriminating theory to ensure against the collapse of our edifice of facts as well as to direct research in its advance beyond the expanding frontiers of contemporary knowledge. The fact that UNESCO has responded to the appeal by the World Congress of Physical Education at Melbourne in 1956 henceforth to include sport and related activities in its program signifies the beginning of a new era in physical education.

In his last public statement, made in 1952 at an age of 95, the great Sir Charles Sherrington reiterated his view that "man's mind can communicate with other minds only through movements." This classical formulation, though of ubiquitous applicability in human physiology, represents the conceptual basis for a rational utilization of the vast pedagogic and sociological potential that is inherent in physical education. Sherrington's statement has placed into a fresh perspective much of the world of values and of social attitudes, since it deals with the communicable element of moral behavior and thus pertains to the ethics of human relations. Within the limits set to all scientific enquiry into nature and scope of human action, research in physical education is destined to elucidate an essential component of the pattern of communication of which Sherrington has spoken: Physical education will have to study the motor act in its remarkable modifiability of content and form.

There are, of course, other aspects. Saint Augustine, sixteen centuries ago, visualized a society of truly responsible men of the future. He referred to them as "commune amore consociati," as persons "linked together by a common spirit of love." Concepts and techniques of communication better than those followed in the past are needed in order to realize the great Saint's idealistic postulate. One facet of the issue relates to our field of research, viz., that which centers around techniques of communication—motor phenomena—and their linkage to attitudes.

The fact that Augustine's ideal has so far not been attained does not justify the conclusion that it cannot be attained. A realistic assessment of the historical discrepancies between morally distinguished concepts and an ethically chaotic world rather focuses attention upon the limitations of the dialectical techniques upon which education has predominantly relied in the past. The fact that sport and physical education are independent of language is of significance in this context. A special pattern of non-verbal communication forms an inherent component of organized exercise and athletics, of play and games, of all sports. To have demonstrated the profound cultural significance of this remarkable characteristic represents the lasting contribution which the Olympic Games movement has made to sociology. This contribution is, at least in part, derived from the perfection of neuromotor communication patterns which are a phenomenological characteristic of the extraordinary athletic performance level attained in Olympic contests.

One physiologist—Pavlov—has sensed the possibility of deliberately establishing a linkage between mental and motor events. A special kind of integration of mental and motor behavior, of behavior not reflexly preformed in the genetic structure of the nervous system but distinguished by the absence of a quantitative relationship between the two elements from which its synthesis is accomplished. This phase of Pavlov's work arose out of his classical research on conditioned reflexes. In its factual originality it assumes axiomatic significance for the theory of exercise, e.g., in its social, esthetic, educational and rehabilitative implications.

The process underlying the linkage anchors to each other seemingly disparate entities, viz., contemplative and motor entities. In the course of this process mutually binding ideas can become forces motivating numbers of individuals to join in commonly executed activities such as game and play, athletic training, and sport. These activities, in turn, subsequently hold them together in a bond of lasting human attachment. That this linkage is not bound to arithmetical rules, that no quantitative relationship pertains to the apposition of contemplative and motor patterns reveals the unique nature of the phenomenon. The latter, though first identified in its philosophical connotations, is of the greatest importance to physiology. It is in the physiological sector that it has been rendered accessible to educational control. Recognized in its conceptual structure, it is bound henceforth to exert a far-reaching influence upon the sport and physical education movement of the world. The potential force of this influence has been carefully considered in the elaboration of the research program to which the Committee is to devote its attention.

The social and ethical goals of education are attainable only through predetermined action. In turn, action to be effective presupposes conceptual clarity and purposiveness as well as accuracy of execution. It is in respect of the latter facet of all human acts that sports and physical education will make its greatest contribution. No other branch of the educational sciences can do likewise. As a basic intellectual problem, the pragmatic dichotomy between aimful motivation and its realization in action is of paramount importance

because basically the goals of sport and physical exercise are synonymous with those of education in general. These goals are to enlarge the individual's scope and control of behavior and thus of human freedom; to help translate these perennial ideals into reality; to apply to this end the special educational and social techniques which sport and physical education have already developed; and to develop new techniques.

As far as possible, the Research Committee's work will be carried out within the framework of UNESCO and its sister organizations under the U.N. Of the many tasks allocated to the numerous technical agencies which the United Nations established after World War II, UNESCO's duties are perhaps the most important. Because of the unique nature of its functions UNESCO's task is related to the materialization of human concepts, to the "leverage of ideas upon living matter," of cultivated mental images upon behavior. Through education thus conceived, UNESCO may be destined to apply in society the intellectual achievements of modern science to the ultimate ethical goals of mankind.

In the final resort, the great problems before the world today are the choices between war and peace, between misery and happiness of the people. Basically these problems are rooted in human concepts, concepts which concern all of us and which are amenable to change. In the long history of the human race, ours is the first generation which possesses the knowledge of how to deal with group conflicts such as have always beset society; and how to give effect to remedial action. To reiterate, among the many educational and social techniques known today, sport and physical education are of singular importance because they represent specialized procedures by which the mechanical component of human behavior can be linked to ideas. To do so in accordance with the nobility of purpose to which U.N. and its technical agencies devote their activities is the challenge before us. Within the framework of such a combined philosophical and scientific approach to sport and physical education the Research Committee of the International Council of Sport and Physical Education is called upon to do its work.

Research Program

Five research projects are planned:

First, to investigate the problem of *physical education in schools.* It is considered imperative that a comprehensive model experiment be initiated to yield evidence on the issue in its entirety, providing for the assemblage of didactic, developmental, physiological, clinical, psychological, sociological and administrative data, wherever possible in quantitative form. The results are to be correlated so as to provide concise information on responses to exercise curricula in respect of selected sectorial combination patterns; and on nature and scope of immediate and delayed transfer effects of training between different personality sectors. In the interpretation of the material, its relevance within the framework of the major short- and long-term aims of general education will thus become amenable to evaluation.

Secondly, it is proposed to follow up the recently communicated clinical and pathological observations on the inhibitory influence of sustained physical activity upon the *aging process.* The threefold differentiation of the problem in as far as it manifests itself in a decline of form, of function and of health necessitates a correspondingly differentiated methodological approach. The three phenomena in question will be analyzed against the established effects upon aging of heredity and nutrition. The favorable morphological status of physically active workers and of trained athletes in age groups 30–70 and even older; the conspicuously high performance standards of subjects conditioned through training; and the morphologically and functionally superior cardiovascular findings which collectively distinguish the latter will be placed in juxtaposition to the diametrically opposite results obtained from physically inactive men or women. J. N. Morris' researches will receive special attention in this context. Small sample analyses as well as large scale investigations will serve as statistical patterns of study, which also pertain to the question of longevity of athletes, as recent reports by Paul White in the United States and by Karvonen in Finland indicate.

Thirdly, *rehabilitation* is to be subjected to intensive research. On empirical grounds, rehabilitation today is considered a complex issue. Its surgical, orthopedic, social, educational and administrative aspects are commonly viewed as

if each represents a categorical equal among partners whose combined resources, once they are pooled, will bring about the new discipline of medicine which is currently evolving. Against such a view, it is of considerable scientific importance to extrapolate for special study the exercise factor. The latter is the most important single physiological component of therapeutic significance in medical rehabilitation. Exercise is the most decisive modifier causing functional adjustment in rehabilitative treatment. Remedial training for physically substandard schoolchildren; remedial training for the injured and crippled; restitution of functional abilities of older persons; and active treatment of a variety of further categories of patients will have to be subjected to an analysis. These studies are expected to yield information from which elaboration of new techniques of physical training, as well as application of the underlying principle, will be possible on a much wider basis.

Fourthly, the *cultural significance of sport and physical education* will be given further study. The analysis of the published data collected at the 1952 Olympic Games in Finland suggests that the worldwide quest for international understanding allows effective canalization into the cooperative procedures of athletics and sport and play. The common aims and ideals which motivate large numbers of men and women of all nations to indulge in and enjoy organized physical activities engender a social situation which carries superior qualities of inter-personal and inter-group relations. Here, idealistic goals such as trends towards greater "individual freedom" and "universal peace" become amenable to active pursuit, and with it to a purposively directed policy based upon knowledge of sport, of planning, and of large scale administrative measures.

Fifthly, a special effort will be made to clarify the *inherent linkage of differentiated motor acts with such introspective events* as motivate and accompany them, representing, as they often do, their decisive facets. "Aesthetic" and "emotional," "artistic" and "phenomenological" elements of individual experience are bound to the physical realities of varied exercise situations such as those ubiquitously encountered in sport and physical education. The physical components of motor acts, though most readily demonstrate in "purely scientific" studies, are but one aspect of the event in its totality. The development during recent years of philosophical and psychiatric concepts such as those elaborated by Erwin Straus in his study on "The Upright Posture," or by Buytendijk in his book "Das Spiel des Menschen und der Tiere" have opened new vistas for the examination of exercise as a holistic problem. Because of the unique variability of motor performances of man, sport and physical education are eminently suited to extend our insight into the compact nature of "Geschehnis und Erlebnis," or the mechanics of movements as against the way they are experienced in their entirety.

MEDICAL CLIMATOLOGY

THE HEBREW UNIVERSITY,
HADASSAH MEDICAL SCHOOL,
DEPARTMENT OF APPLIED PHARMACOLOGY,
Jerusalem, 18th May, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for the memorandum to the Deans of Medical Schools throughout the World, which I received from the Dean of our School. As mentioned in para. 4 of this memorandum, "We are interested in learning about those particular health problems in your country which shed light on major international medical challenges," I should like to bring to your attention such a particular item in our country, on the investigation of which I just started preparing an application to the U.S. Department of Health, Education, and Welfare in Bethesda, for a grant enabling me to study same.

The problem in question is the following:

The particular climate of Jerusalem affords an opportunity to study bodily adjustments to sharp changes in climatic conditions, especially the increase of average temperature from 18° C to 36° C, when the hot desert wind (chamsin) commences overnight. Clinically this change often has the gravest consequences for patients suffering from heart disease or undergoing surgery. Practically everyone suffers from a significant lowering of vitality, connected with a variety of as yet inexplicable physical and mental symptoms which affect the newcomers less severely than the old timers.

An investigation carried out at random in our laboratory pointed to significant changes in the activity of the adrenal gland (stress followed by adaptation or exhaustion). As the examination of blood ACTH, urine 17–Ks and 17–OH is a routine procedure in this Department, and methods for measuring adrenaline and nor-adrenaline were recently developed, we are able to carry out an extensive study of the whole problem of adrenal behaviour together with the creatinine, Na and K metabolism under chamsin conditions.

You will no doubt appreciate the wider significance of this entire problem,[28] and I therefore trust that this project will receive your personal attention and favourable consideration.

Yours sincerely,

F. G. SULMAN, M.D., D.V.M.,
Head of Department of Applied Pharmacology.

13. CORRESPONDENCE ON DIVERSE PHASES OF INTERNATIONAL MEDICAL COOPERATION

Senator HUMPHREY. Each of the preceding letters has been devoted, by and large, to a discussion of some specialized phase of medical and health-related cooperation, some particular discipline or disease entity.

The committee received, however, literally hundreds of letters from experts who referred to broad, general problems of international cooperation such as exchange arrangements, etc. These letters were most welcome and have provided valuable insight.

Representative letters of this general type will now be submitted. The very first is from a representative of one of the great organizations of American medicine—the Mayo Clinic.

Other letters from Minnesota and other States follow.

(I might mention that the University of Minnesota has the second largest number of foreign students of any State in the Union to be found in any higher institution of learning in the United States: in 1959, 1,031 from 78 nations. At the Mayo Foundation in Rochester alone were 130 medical graduate students. At the University of Minnesota itself were 192 students from the Republic of China, 142 from India, 131 from Canada, and 113 from Korea. These latter statistics cover all fields, of course, and not merely medical science.)

MAYO CLINIC,
Rochester, Minn., December 10, 1958.

DEAR SENATOR HUMPHREY: Dr. Charles W. Mayo and our Research Administrative Committee have asked me to reply to your letter of October 10 regarding the study of international health programs being made by the Subcommittee on Reorganization and International Organizations, of which you are the chairman. I am certainly impressed by the scope of your survey and hope that the outline which is presented below will be of service to you.

Our participation in international health and research programs falls, I think, into the following main areas:

I. *The training of foreign physicians and research workers.*—The Mayo Foundation offers training fellowships to superior graduates of medical schools the world over. The fellowships are in medicine, surgery and the associated specialties as well as in the basic medical sciences and medical research. These fellowships are offered for periods of one to three years or more. Over the years the Mayo Foundation has participated in the training of a large number of foreign physicians who have returned to their homelands and there have taken up the practice of medicine, have participated in public health and in research.

II. *Training of our staff in foreign lands.*—A number of the staff of the Mayo Clinic and the Mayo Foundation have received medical, surgical and scientific training in foreign lands. Some of the physicians were originally educated in foreign countries, others have spent periods of study in foreign lands in order to

[28] For all arid zones.

broaden their education in certain phases of research and medicine. In addition, each year a number of the members of the staff of the Mayo Clinic and the Mayo Foundation spend from two to three months on trips in foreign lands learning firsthand the progress which has been made in their particular fields of interest in these countries.

III. *Exchange of information.—a.* Each year physicians, surgeons and basic scientists from foreign lands are invited to present lectures, conduct seminars and to participate in discussions in the Mayo Clinic and the Mayo Foundation. In addition, a large number of foreign visitors spend periods ranging from a few days to a few months in Rochester learning of our procedures so that they may take these back to their home countries.

b. A considerable number of our staff take short trips of one to three weeks duration to foreign lands to learn specific techniques and to observe particularly the work of individuals in foreign countries so that this information may be brought back firsthand and applied to our practices here.

c. Our staff actively participates in numerous international congresses held periodically in different major cities all over the world. At such congresses there is always a free exchange of information available for those who wish to participate. Such congresses are held every few years in medicine, surgery, their specialties and in most basic science fields.

d. Publications: The Mayo Clinic publishes a weekly proceedings of its staff meetings which is given upon request to medical libraries and medical doctors in many foreign countries. It presents current advances made by the staff and current discussions within the staff in important areas of medicine.

Besides the contributions to our own staff proceedings, the members of the staff of the Mayo Clinic and Mayo Foundation regularly contribute to journals of international scope in fields of medicine, surgery and the allied basic sciences.

IV. *Contributions to medical knowledge.*—The contributions made by our staff to medical knowledge and to the advancement of the care of the sick are immediately available on a worldwide basis through international congresses and journals of international scope. Important contributions have been made over the years in medicine, surgery, biochemistry, physiology, bacteriology, pathology and other areas.

I sincerely hope that the above outline will be of service to you and your committee. I am pleased that you appreciate so clearly how international relations can be fostered effectively by aid, even in a small way, in the area of health and medical research. In this particular area a little certainly goes a long way. If we in Rochester can be of any assistance to you, please consult with us promptly.

Yours most sincerely,

CHARLES F. CODE, M.D.

UNIVERSITY OF ILLINOIS,
COLLEGE OF MEDICINE,
Chicago, Ill., July 27, 1959.

DEAR MR. CHAIRMAN: I am appreciative of your recent letter and interesting enclosures relative to the work of your committee. I reply not as a representative of the American Association of Anatomists, as addressed, but rather as a member of that organization who has had an extensive and rewarding experience in international research and medical education, especially over the past nine years. I have served twice as a visiting professor on the Facultad de Medicina de Montevideo, once at the Universidade de Recife in Brasil, and I have visited and lectured extensively throughout South America. In addition, I have spent a year at Oxford University, as a Guggenheim Fellow, and have lectured at universities throughout Great Britain and Ireland, as well as on the Continent. I am, within the limits of the associations afforded by such contacts, familiar with many facets of the very large number of points taken up in the committee prints which you have sent me.

I have studied these prints carefully and I know of no man of good will who cannot subscribe to the tenets set forth therein. They will serve as a useful guide to those who must move in the direction of such activities in offices of high level.

Nineteen years, fifteen as a member of the staff of the Carnegie Institution of Washington, have brought me in contact with a very large number of physicians who came to my laboratory for postdoctoral work. All of these were in the field

of obstetrics and gynecology and all came to work in the basic aspects of their field. Almost all benefited enormously from the experience afforded them by this opportunity, and all have returned home to positions of increased responsibility and effectiveness.

When I compare, however, the relative value of the experience of such men with me as against my experiences with such men on their own home ground, I am very sure of the necessity for those of us in lavishly equipped laboratories to be absolutely sure of the facilities and environment of those whom we help. Only in this way can we really direct our best efforts along fruitful lines. It is for this reason that I assigned an Indian doctor to an area of interest in anthropology in which he can engage in India without the need for facilities and assistance that he will not have when he returns to India in September.

Sometimes it is enough to merely visit for a few days in a laboratory to know the level of work that can be done there. If one spends several months or more, as I have, one sees the daily operation, the different conditions of working in the local frame of reference rather than his own. One becomes aware of the difficulties presented by personal prides, by limited training and experience and by the necessity for making a living out of medical practice in half of a day. These things both compete for and distract from the academic approach with which we are familiar and which we expect all faculty men everywhere to enjoy. In England and Europe situations vary in a range from ones as we know them to others as I have described.

I have taught courses to advanced students—physicians, who at the ages of 33–38 were engaged in a highly competitive five-year program of study, teaching and research in order to gain a professorial appointment on a faculty of medicine. I have seen how the trivial factors of family position, friendships and clinical appointments affect the outcome. Surely, if quality is to be injected into medical progress throughout the world, these problems must be faced, and yet faced in such a way as to not affect personal, family or national prides. I have seen how, in Chile and Brasil, the Rockefeller Foundation has made some progress along these lines, but the view of the foundation has not prevailed, to my knowledge, in Uruguay or Argentina. There are two notable exceptions to this, in the laboratories of Professor Bernardo Houssay and of Professor Roberto Caldeyro-Barcia.

In the current field of interest in congenital malformations, I know of no more productive step than one taken in 1953 by the National Science Foundation and the Association for the Aid of Crippled Children. These agencies pooled their funds to organize a truly representative international conference at Cold Spring Harbor. I have not made a count of the results, but at least 10 further conferences have followed, supported by private means; at least a dozen Americans have had doors opened to them in Scandinavia and Great Britain for work, and perhaps as many from abroad have come to this country for work. Until 1953, the research results of each individual were virtually known only by the printed page. Now, free access of person to person exists.

A final effective means of making progress (and one to which you rightly point in your committee print) is that of bringing to this country qualified men as visiting professors. I have seen this to be eminently successful and it is a practice in which this department engages.

I shall follow the development of the work of your committee with interest. I am well aware of the overtones of your program. These should ultimately relate to the demographic aspects of the effects of improved health standards throughout the world, and the secondary pressures of a socio-economic nature. Just how far any one nation should go in assuming the burden of responsibility is a point for debate. But these are things that must follow the work of WHO.

Sincerely yours,

S. R. M. Reynolds, Ph. D., D. Sc.,
Professor and Head, Department of Anatomy.

University of Minnesota, The Medical School,
Minneapolis, May 18, 1959.

Dear Senator Humphrey: I received your invitation for suggestions to aid the international health study and am very pleased to offer you my feelings and experiences in this matter. I have spent some four of my fifteen years in medicine abroad and because of this have very strong feelings concerning the values of international medicine in promoting better understanding between

nations. The suggestions that I have are based on my experiences as a pathologist for the 34th General Hospital in Korea in 1946 and 1947, as well as a year during which I set up the laboratory of neuropathology in the Oslo Community Hospital, and a year of research in the biochemistry laboratories of the Institute of Psychiatry, University of London. I am sure that your committee is aware of many of the things that I have to say, but I shall still try to be as complete as possible.

In the speech that you presented at the University of Minnesota Medical School some time back, you made a number of excellent points to arrange for the international exchange of sending American physicians abroad and bringing foreign scientists to work here. However, one of the greatest problems concerned with bringing foreign scientists to the United States is that once they arrive here and are exposed to the excellent facilities that we have available, they become loathe to return to their homeland which does not provide adequate opportunities for them. Because of this, a large number of foreign scientists remain in the United States and, as a consequence, there is some discontent among the centers of learning abroad that many of their best potential scientists leave them for the United States. The administration of the Fulbright Act has taken steps to remedy this, in making it mandatory for Fulbright awardees to go back to their country of origin for at least two years following their stay in the United States. However, this is not sufficient to make them remain permanently.

I think that the best thing that can be done in this respect is to do something to provide facilities within the foreign countries to make it conducive for their own scientists to stay and to utilize their American experiences in their own country. This, then, will allow all the good will possible to result from this visit. The only way that I can see possible to do this is to utilize some of the bound money that you mentioned exists in these foreign countries for the provision of either research facilities or research positions for native scientists who have received some advance training in the United States. The lack of available positions is certainly one of the greatest reasons for the foreign scientists' immigrating to the United States.

Secondly, I think that training missions sent from the United States to specific areas throughout the world can be used advantageously for the training of foreign scientists and physicians in specific techniques. If such missions were carried out, they should be for significant lengths of time, not less than six months in each place, so there would be adequate time to disseminate the information. It, of course, requires a great deal more time to provide information in the backward areas where the education of physicians is such that they must consume some basic information before they can be provided with similar advanced knowledge.

Finally, I consider it very important to extend the international program you are sponsoring to the as yet uncommitted or loosely bound areas in the Afro-Asian bloc. I am thinking particularly of states like Ghana and others where the affiliation was formerly with a European nation but which could easily pass towards the Eastern block. Some of these countries, such as Ghana, have medical schools which are forms of outposts of British medical schools where native physicians are trained. The assistance of schools such as this and the establishment of other medical schools for the precise purpose of training native physicians should be an important goodwill function, as well as an important contribution to world health. It would seem that a survey of the means and medical education of these nations in the Afro-Asian area might be one of the important initial steps to be taken if an Institute of International Medicine is set up.

You may gather from the above statements I have for some time been concerned with the role of medicine in international relations and I shall be pleased to assist your program in any way possible. If there is any other information that I could provide, I will do so.

Sincerely yours,

MAYNARD M. COHEN, M.D.,
Associate Professor and Acting Director, Division of Neurology.

UNIVERSITY OF MINNESOTA, THE MEDICAL SCHOOL,
Minneapolis, Minn., May 27, 1959.

DEAR SENATOR HUMPHREY: I am happy to respond to your invitation of May 1 requesting suggestions for the international health program. I would also like to take this opportunity to express my personal appreciation to you for your sincere interest in medical research and for the attention you are devoting to the international health field. This interest is much appreciated by scientists throughout the world.

In setting up the International Health program, I would suggest that a considerable amount of emphasis should be placed on the training of "young" foreign scientists, both in the United States and in other research centers around the world. After these scientists have received additional training, and after they have returned to their laboratories in their native countries, they should then be encouraged in their research programs by direct grants awarded through the international institute program. This would enable these scientists to strengthen the research programs in their own countries; secondarily, it will facilitate the development of a number of local training centers for future research investigators.

Specifically, I would ask that substantial funds be set aside for the following two items:

(1) advanced training (and exchange) of "young" foreign scientists;

(2) research grants for these younger scientists once they have returned to their native countries. This research support should be continued until such time as these scientists are able to obtain adequate research support in their own countries.

I would like to amplify on these suggestions by citing our experiences in the Department of Anatomy at the University of Minnesota during the past five years. This experience will illustrate the need for the two types of support which I am suggesting. When I came to Minnesota in 1954, I set aside one of the regular departmental positions in Anatomy to be used as an exchange position. Each year we brought a highly qualified young scientist to Minnesota. In most instances the travel funds were provided through the Fulbright plan, whereas the salaries of these individuals were paid out of local funds. These individuals, who came from Leeds, Glasgow, Bristol and Hamburg, had M.D. and/or Ph.D. degrees, and they held teaching and research positions in their own universities. During their year's stay at Minnesota, they participated in the teaching and research program in the department. This was an enriching experience for the department, and it likewise broadened the research experience of the visiting scientists. One of these visiting scientists has now become Professor and Head of the Department of Anatomy in Dundee, Scotland.

Under the Korean exchange program we have provided advanced training for five Korean M.D. anatomists (four from the University of Seoul and one from the University of Taegu). Two of these, Jae Nam Kim (from the University of Seoul) and Ung Kee Hwang (from the Taegu University) have spent four years at Minnesota, and they received Ph.D. degrees in Anatomy. These two Korean anatomists are now highly qualified research scientists and they measure up in scientific ability to any of the graduate students we have had at Minnesota in recent years. Both are going back to their universities this fall, and they will provide an excellent nucleus for graduate training in Anatomy in Korea. It would be very desirable if the International Health Institute could provide both Dr. Kim and Dr. Hwang with a small research grant which would permit them to buy the materials and equipment needed for their research programs to be carried out in their native countries. Without adequate research materials and facilities, these well-trained individuals will be hampered in their work.

During the past year the ICA sent an Indian (Dr. Garg) to Minnesota for a year of post-doctoral study. Dr. Garg holds an M.D. degree and he came primarily for a year of additional study. We have found Dr. Garg to be an extremely well-qualified person, and we believe that he would profit greatly by additional graduate training. Dr. Garg now wishes to return to Minnesota for three additional years of graduate study because he feels that the Ph.D. training will make him a much more effective research investigator and teacher. Because the ICA funds are restricted, Dr. Garg must return to India at this time. I am now trying to obtain the necessary funds to enable Dr. Garg to return to Minnesota.

Currently the Department of Anatomy at Minnesota has three requests from highly qualified individuals in India, Korea (Taegu University) and South Africa. Each of these would like to come to Minnesota for a period of post-doctoral or graduate training. If funds were available through the International Health Institute to provide for transportation and stipends, we could readily accommodate these individuals.

I am certain that our experience in Anatomy at Minnesota is similar to that of many other University departments. It is for these reasons that I would urge the International Health Institute to put a major emphasis on—

(1) The training of "young" foreign scientists, and

(2) The support of the research programs of these scientists after they are trained.

I very much appreciate this invitation to offer my suggestions regarding the proposed international health program. The United States has an enormous opportunity, and I am most pleased by the attention you have been giving this matter.

Sincerely,

ARNOLD LAZAROW, M.D., Ph.D.,
Professor and Head, Department of Anatomy.

UNIVERSITY OF KANSAS MEDICAL CENTER,
Kansas City, August 8, 1960.

DEAR SENATOR HUMPHREY: I received your memo H–7–3–60. I have followed with interest and appreciation the reportings of your committee—the objectives which I strongly support in view of my own experience in international medicine. I would be grateful if you could send me part I of the testimoney which I understand is available upon request.

Since you state that you wish to receive reactions to the hearing and work of your committee, I enclose my views on this subject for your information.

I am certain that you are fully acquainted with the views that I express, but I mention them again to emphasize that there are many in medical circles who are very conscious of the value of cooperation in international medicine, and realize that such cooperation can be of assistance not only in raising the standard of human health both here and abroad, but that it can be a potent and relatively economic tool in the development of good relationships between the United States and more backward countries.

These views are my own and do not necessarily reflect those of this faculty. They are expressed in general terms but if there are any further points you wish to discuss, I should be happy to do so.

Sincerely yours,

Dr. JOHN HIGGINSON,
Holder of Lewis & Hubbard Traveling Professorship of Geographical Pathology.

COMMENTS ON UNITED STATES SENATE INTERNATIONAL HEALTH STUDY (1960)

(By Dr. John Higginson)

It is clear from the reports of your committee that it is very conscious both of the methodology and of the value of epidemiological and pathological research, not only in the infectious diseases but also in the degenerative diseases. I have been a member of various international bodies for some years and have also spent a considerable time in Africa where I was a recipient of a Public Health Service grant, and I cannot speak too strongly of the importance of such studies and the value of United States support to foreign laboratories.

In my opinion, there are certain points in the practical implementation of such studies which are discussed by your committee but which cannot be over emphasized.

1. Priorities in Type of Medical Research.—In many countries, comparative studies with a view to elucidating the etiology of the degenerative diseases will clearly be of value to people in the United States but of little immediate importance to the local people in those countries due to the fact that relatively few of them reach an advanced age due mainly to high infantile mortality rates. It, therefore, should not be expected that significant funds can be provided from local sources for research in such diseases as cancer, etc., but rather such poorly

developed countries should be encouraged to support the investigation of diseases of immediate practical importance, which in fact most of them do. However, the position will change and furthermore, from the point of view of their scientists, a certain amount of basic work in the other diseases is desirable, especially since such research is more prestigious and more liable to be readily supported financially by research agencies in the Western World. It is in this field that the United States can greatly assist, especially by increasing personnel who can work in collaboration with local scientists on both the degenerative as well as local diseases. This will prevent a scientific vacuum developing in the area of the degenerative diseases, and also permit examination of the disease pattern under present conditions which will not be possible in a few years due to alteration in socio-economic conditions. At the same time, such support will deal with the moral question of diverting local resources to problems not of immediate importance.

For example, in a hospital (1500 beds) where I worked, only a very occasional case of coronary heart disease was seen each year, but 30% of cardiac admissions were due to a form of heart disease which does not apparently occur in this country. Yet, no staff or funds were available for research on the latter, but large sums are now being spent in this area on the study of atherosclerotic heart disease which is of no importance to the Bantu, largely due to the prestige involved. This offers a possible piece of ammunition to the future African demagogue.

2. *The Value of Personnel Exchange.*—This is the crux to the whole future of international medicine in the next two decades, but the implications I believe are not fully comprehended nor are the possible scientific dividends. At present, there is a large flow of persons at all levels of training to the United States, but there is a relatively small flow in the opposite direction.

Without limiting in any way the flow to this country, I believe it is most important that the flow overseas be expanded, as it is the only rapid method of increasing research personnel abroad. While the United States should continue to work through such international bodies as WHO and INCAP, I believe that much can be done by medical schools in this country in helping the faculties of oversea schools and research institutes.

In many undoctored countries, the research medical staff is grossly overworked with heavy teaching and service loads and has little time for research. If, however, their position is strengthened by the presence of United States doctors as colleagues on the staff with equal responsibilities for service, not only will they have an opportunity for research into problems, but the United States doctor will have an opportunity to develop a team of local workers to investigate problems in geomedicine.

If the foreign doctor is only interested in research, often he may be resented as skimming the cream, while the local scientist continues to carry the basic service load. This is not a good position and clearly the medical scientists from the States must be relatively young, prepared to do the same type of work as local personnel, and stay sufficiently long to understand local difficulties. All too often, the rapid visit of a senior scientist is confined to social engagements with senior members and is of little benefit to young medical scientists. I cannot over emphasize the importance of the "working colleague" situation as opposed to temporary visits.

From the research viewpoint, the American will be stimulated by seeing new problems to which he can apply advanced techniques and at the same time train the local personnel in such techniques to the mutual benefit of both, plus the advantage that the local persons are actually included in a research problem which they should be able to continue in his absence. Further, there are no contacts greater than those developed by workers on similar problems.

From my own experience in Africa, I cannot comment overstrongly on how useful trained colleagues would have been in enabling me to investigate many of the exciting medical problems prevalent in the local population, relating to cancer, liver disease, heart disease, etc. Further, the solution of such problems would have benefited both the local Bantu and also provided much data regarding problems of significance in this country, especially in cancer and heart disease.

The implementation of increasing faculty and scientific exchange does present problems. It is not new and such exchange and support abroad is already operative through Fulbright fellowships, the China Medical Board, Rockefeller Foundation, individual medical schools, etc. However, the scope must be in-

creased. I would like to suggest that each individual medical school throughout this country be encouraged to develop reciprocal relations with a foreign school in a backward country. This should lead to increasing exchange of staff and strengthening of the scientific manpower of the foreign school. For example, under the initiation and stimulus of Dr. Clarke Wescoe, chancellor of the University of Kansas, such a collaborative scheme has been commenced with the University of the Philippines, and I, myself, will be making a tour to India and the Far East this fall for the specific purpose of meeting and developing contacts for future research projects on behalf of the university, for which a traveling professorship has been granted to me.

Such exchange would imply that members of the American faculty serve abroad for a considerable period in the departments of foreign medical schools but that their salaries be met by their own school. As this would clearly form an indirect method of subsidizing the foreign medical school, it would clearly require a source of outside funds and I believe that the Federal Government could be of assistance in providing funds for this purpose, the funds to be administrated by the United States medical schools to avoid fear by the foreign school of United States Government interference. Such personnel should be in the relatively young age group and capable of making friends with local members of the medical profession. It is easier for one person to create a good impression overseas than to make certain that 100 people in this country will all create a good impression of one person from abroad.

Such an exchange, while not only developing personnel, will permit the investigation of diseases abroad at a degree and level at present not possible, and produce results of immense practical importance especially in regard to prevention and elimination of such diseases as cancer and ischemic heart disease as well as the communicable diseases. The chairman of the oversea department will in fact remain *ex officio* head of his department which will include the exchange faculty.

I would, therefore, emphasize that the importance of exchanging personnel abroad should be emphasized by your committee as having the best immediate potential for development of medical research in environmental medicine which can be done through private agencies.

There is another difficulty which I have learned from foreign medical graduates. Often when they come to this country and return to their own, they do not find a suitable job available where they can apply their techniques and they also have to combat a certain amount of local jealousy due to the fact that they had the advantage of foreign training which a local person of equal ability may have missed. Often, the choice of the person to go abroad may not be the best in the opinion of his colleagues and he may by no means be the brightest member of the faculty from which he has come. This danger is obviated by sending someone from abroad to that medical school where he can teach several different persons. Further, it is of little value to train a man to use, for example, an electron microscope if there is no such instrument in his country. Through personnel exchange he may have an opportunity to continue to use such machinery and thus avoid the frustration associated with an unusable skill.

In conclusion, I would suggest that a higher proportion of university staff in this country be encouraged to spend one or more years of their time in schools abroad and this increased cost to their own medical school should be subsidized by the Federal Government. It should be understood by the medical school that this in no way effects promotion or pension benefits. The dividends will be both in improved human relationship and also in increased knowledge from the better study of human disease under different environmental conditions.

COLUMBIA UNIVERSITY,
COLLEGE OF PHYSICIANS AND SURGEONS,
FIRST MEDICAL DIVISION, BELLEVUE HOSPITAL,
New York, March 30, 1959.

DEAR SENATOR HUMPHREY: Thank you very much for your courtesy in inviting me to express an opinion on the broad problem of extending and strengthening medical research throughout the world, with particular reference to the bill proposed by Senator Lister Hill. I appreciate this opportunity greatly. I have given the matter considerable thought, and have also had the advantage of discussion with my friend Dr. James Shannon, and my friend and colleague, Dr. Andre Cournand.

The first and obvious question is, what is the scope, the framework within which this whole idea is conceived? If it is to concern itself primarily with the major diseases that we have in the United States, and with the pattern of research that we have developed to study these diseases, which I consider a good pattern, then the obvious procedure would be to extend this further—to encourage and support the development of similar patterns of research in other countries whose problems of disease are similar to ours.

An extension of what you have well termed the exchange-visitor program, in its broadest and most inclusive sense, would be one very good way to do this. In our own laboratory at Bellevue Hospital, we have benefited by such a plan, through the generosity of the U.S. Public Health Service, bringing over to work with us each year two or three outstanding young men from other countries. I understand from Dr. Shannon that his program is similar.

The only comment that I have about the extension of this enterprise is that I would hope that it would be free and open to all; that scientists from all countries, including Communist countries, should be eligible; and that, conversely, our young scientists should be free to go to, say, a clinic or laboratory in Czechoslovakia, or Russia, if the opportunity there is what they want.

The further additions to this type of program, such as you have mentioned—exchange professorships, international symposia, translating and abstracting services, etc.—might be worth exploring; but it would be important to avoid duplication of the large number of these enterprises that already exist.

What concerns me most, however, are those countries with vast populations whose circumstances are totally different from ours; where the major biological troubles are not heart diseases and cancer, but, on the one hand, overpopulation, and on the other, starvation, malnutrition, dysentery, malaria, tuberculosis, intestinal parasites, and so on. There is not much use in their sending a bright young man to be trained with us, to learn about arteriosclerosis, for example: first, because this is not his country's problem; but even more, because when he returns to his own country he will have no facilities to work on anything.

Yet these countries desperately need our help. I am persuaded that what we need most in this present day is not so much the advancement of science as it is the wise and magnanimous use of the science that we have, throughout the world.

One of the most interesting conversations that I have had in recent months was with a young doctor from the Sudan, Dr. Mohamed Abubakr Hassan. What he said essentially was this: We want you to come to our country, to see what our problems are. We want you to come and stay, long enough to find out about these problems, and then help us set up laboratories and training programs to deal with them.

I realize that $50 million cannot handle the huge mass of medical and economic deficiencies, of which Dr. Hassan and his people provide only one small segment. I should like to suggest, however, that some part of this money be set aside to study, and perhaps embark upon, pilot efforts of this kind. It would be difficult, no doubt, to tie it in with the rest of the training program, yet not impossible. Such an enterprise would be similar in many ways to the remarkably successful activities of the Rockefeller Foundation in international health and preventive medicine; but it would be more oriented toward the setting up of research laboratories and institutions, and the training of research men.

Perhaps it is out of place for me to discuss this matter in these broad terms, in areas where I have no experience or competence. My suggestions may not be practicable. I do believe strongly, however, that in any truly international program such as this, the great countries of Africa and southern Asia, and the underdeveloped countries of Central and South America, should not be forgotten.

Sincerely yours,

DICKINSON W. RICHARDS, M.D.,
Director, First Medical Division, Bellevue Hospital.

DEPARTMENT OF BACTERIOLOGY AND IMMUNOLOGY,
HARVARD MEDICAL SCHOOL,
Boston, April 28, 1959.

DEAR MR. CAHN: I would like to thank you for the comprehensive reports of the subcommittee which you sent to me and for the opportunity of expressing my views on the research and assistance programs.

It is heartening to see that our country will look abroad and help other scientists in obtaining broader training and support. The NIH and NSF have both aided immeasurably in creating a large well-trained scientific community in this country. While our Government has relieved the universities of this financial burden, it is now in a position where it must continue to support science.

I am sure that the subcommittee is cognizant of the fact that when we support science abroad many scientists in turn will become dependent on U.S. funds for both salaries and equipment. In the future, should the Senate, for economic reasons or otherwise, find it necessary to curtail this program, the foreign universities will be unable to support those scientists that would be dependent on U.S. aid. It seems to me, therefore, that it would be unwise to replace the responsibility of foreign universities to their scientific staff, unless such an undertaking is separate from "foreign aid" and can be defended during lean as well as fat periods in our economy. Certainly, funds should be made available for the creation of the best laboratory facilities abroad and for the support of scientific projects. A sound basis for assistance to scientists abroad would be to allow these grants and fellowships to compete with requests from U.S. scientists through the NIH and NSF so that funds would be available solely on merit.

While your subcommittee is studying the question of international support of research, it might consider as a defect in our present system the fact that funds are funneled through specific institutes and that support of basic research is impeded because it so often fails to fall into well defined divisions or catagories. Basic research can provide knowledge of the fundamental nature of the cell and its chemical machinery and is necessary for our understanding of any disease process or metabolic disorder. Such basic work merits recognition and assistance.

I should like to compliment the subcommittee on its excellent work and hope that these views may of assistance to it.

Sincerely yours,

ARNOLD F. BRODIE, Ph. D.

TULANE UNIVERSITY,
SCHOOL OF MEDICINE,
DIVISION OF PUBLIC HEALTH PRACTICE,
New Orleans, La., August 10, 1960.

DEAR SENATOR HUMPHREY: In reply to your memorandum H–7–3–60, entitled, "Report on Publications: Invitation for Reactions," I would like to inform you that I would very much like to have a copy of part I of the committee's Hearings—Appendix Volumes now, and later a copy of part II, when it is published. I am undertaking a detailed study of international health work, as well as teaching it and thus your great volume of valuable data would be most useful to me. May I also ask for a copy of your report number seven which I have not received.

In reply to your request for reactions, I would like to say first of all that I consider the series of publications which your committee has already made to be of exceptionally high caliber and of great usefulness. Indeed, I have already found them of value for teaching purposes, although that is not the reason for which they were prepared.

At the same time I would, however, like to point out that there is an important area which has not been covered, namely, the study and appraisal of projects in the field. Much of the evidence contained in the published reports is a synthesis of evidence collected from other published reports, from conversations with senior officials and visits to headquarters. I think it is unfortunate that evidence was not collected from the field. I know that to do this properly a corps of highly trained personnel (such is not readily available) would be needed. But I do feel strongly that one of the big weaknesses in international health work today is in project administration. To attain even better results, I think this area requires attention.

In regard to future policy of the United States Government in international medical cooperation, I would like to make a few suggestions.

I think it most important that there be no lessening of the contributions made by the U.S.A. to international health work. If there should be any change, there should be an increase. Health programs are not only popular, but also permit advances in other fields.

In regard to programs, I see many advantages in favoring campaigns with specific objectives which can be attained in the foreseeable future, as, for example, the eradication of malaria and smallpox from the world. I think the achievement of such objectives would give to international health work great publicity which would be of aid in soliciting funds from governments in the future. While making this suggestion, I, at the same time, think that there should be continued support for overall programs for the improvement of health departments which actually are of tremendous assistance in promoting specific objectives such as the two which I have mentioned above.

I think it would be useful to make a study and analysis of the techniques employed by international agencies such as WHO and ICA. It seems to me that there has often been a slavish copying of older projects without basing new projects on the particular requirements of the localities concerned. Any well-designed local health service must be tailored to suit the local requirements and these can be ascertained only after a survey of the problems and facilities. Further, the design of services is dependent, among other things, on the types of personnel available. For example, in some countries much of the work must be done by relatively unskilled people, while in others, an adequate number of professional people is available. Nevertheless, a study of existing projects reveals a surprising uniformity of personnel employed.

In regard to WHO, each year the Director General prepares a detailed document in book form, entitled "Program and Budget." This is first studied by the Executive Board and later by the World Health Assembly. Later, the same bodies are presented with "Annual Reports," prepared by the Director General, but in a totally different form. While the Program and Budget documents consist of short narrative descriptions of projects, accompanied by tables showing the cost for individual items such as personnel, supplies, and transport, etc., the subsequent reports on such projects are almost entirely narrative and often written in rather general terms. Thus, it is not possible for delegates and country representatives to determine readily whether or not the Director General and his staff have actually carried out the instructions given to them. I think it would be useful to prepare, if not all, at least an occasional annual report, in precisely the same form as the "Program and Budget." This procedure would be even more valuable at the regional area where meetings are more leisurely and country delegates have more time, intimate knowledge, and greater interest in analyzing projects. In this case, of course, it would not be the Annual Reports of the Director General which would be considered, but the annual reports of the respective regional directors. If this proposal were adopted, member governments would participate more effectively in the administration of the program. I am not suggesting that the officials of WHO are in any way performing improperly, but I do think that it would be desirable for this simple measure to be taken and so secure perhaps better administration and certainly more intimate contact between member governments and their agency.

A very big gap in the medical defenses of the world and an impediment to global cooperation is the absence of the government of continental China from WHO. Whatever the political justification might be for the exclusion of China from the United Nations, this policy, when applied to the WHO, is pursued at the expense of world health. I feel that, not only should continental China be invited to join, but should even, if necessary, be forced to join. Only with her inclusion can our world epidemiological services be complete.

In regard to new programs, I think a strenuous effort should be made to prepare personnel in a better way. It is totally insufficient to employ people, either in ICA or WHO, who possess merely an adequate technical knowledge for work in their home countries. International health work requires additional skills and knowledge which are normally not available in personnel who have worked only for their national administration. For successful field work, it is essential that they be adequately instructed beforehand in at least the elements of international relations, the special problems encountered when working in foreign countries, and above all, knowledge of the local languages. This last opens the door to successful work. Actually, lack of adequate training can, on occasion, do more harm than good.

In the bilateral field, now that rival powers, and particularly the U.S.S.R., have appreciated the popularity of health in foreign aid programs, it has become apparent that in one respect at least, they have advantages over United States personnel, namely, in that of foreign languages. I think it would be a very good investment for the United States Government to go to considerable expense and

time, giving thorough language courses to personnel before sending them overseas. I would suggest that this could perhaps first be arranged by contacting interested personnel, such as medical students, a year or two before graduation, so that language classes could be given concomitantly with their medical studies. On graduation, appropriate additional preparation, both technical and in the field of language, could then be given to them, so that on assignment abroad real fluency in the language concerned would be possessed.

In many WHO-assisted projects and also probably in ICA projects in which the "servicio" pattern is not followed, indifferent results are being obtained because of the ineptitude of local officials. In many of these cases, there seems to be a clear need for giving executive authority to the international officials. That is already the case in many parts of the world and as more African territories attain independence, I would expect there to be an even greater need. Right at this very moment I am sure that hundreds of international health workers with executive authority could well be used in the Congo. I think that if it were better known that WHO could, on request, undertake executive work, then greater advantage of this fact would be taken by countries such as the Republic of the Congo.

I have found it difficult to express in a few words many of the thoughts which I have on this subject, but I do hope that the above suggestions will be of some use to you. Needless to say, I will be only too happy to amplify any of them if there should be any lack of clarity. These, of course, are my personal views and not those of Tulane University.

Yours truly,

ATHOL J. PATTERSON, *Associate Professor.*

UNIVERSITY OF COLORADO MEDICAL CENTER,
Denver, Colo., August 23, 1960.

DEAR MR. CAHN: You were kind enough to ask my specific suggestions concerning future U.S. Government policy toward international medical research and assistance in your letter of August 18.

I am happy to furnish you the following suggestions based on my experience in this field. Briefly, my background has been that of a professor of surgery who has largely been involved in various projects in the Orient and southeast Asia during the past 10 years. Prior to that as a young student I worked in Central and South America.

1. Value of international research: As the host of distinguished witnesses to your committee have fully documented, there are differences in environment and custom throughout the world that alters the incidence of disease. By analyzing such disease incidence and environmental factors there is no doubt that clues can be obtained as to the causes of diseases that affect the people of our country. As such, it seems to me highly proper for agencies of the U.S. Government to help foster such research by our own citizens and some highly qualified citizens of other countries.

2. From a pure dollars-and-cents point of view I think that in some cases the expenditure of the research tax dollar in foreign areas may bring more than here within our country. This not only will depend on unique disease conditions which may be studied but also on highly qualified personnel who have no other means of support.

The above statement could be the excuse for the United States assuming a fantastic obligation, however, and frankly, some of the naive lady bountiful enthusiasm expressed in front of your committee for liberal spending of our soft money credits for vast research projects abroad was disturbing to me. I obtained the impression from reading the reports that many of your witnesses had only very short-term experience as day-to-day visitors in foreign research areas. A more realistic approach might be obtained from those professionals in the field (such as Rockefeller Foundation, China Medical Board, Ford Foundation, etc.) whose business it is to study just such problems. Such men as Dr. Harold Loucks of the China Medical Board have spent a lifetime studying how best to spend the research U.S. dollar in international study.

My plea then is to back well thought out investigative projects in other lands carried out by highly qualified observers (either U.S. or foreign citizens), and perhaps not to back a large number of such projects. This should not take the proportions or characteristics of the familiar crash program.

3. Sponsorship of visiting research fellows, both to other lands and to the United States from abroad, is a highly beneficial program and totally suitable for Federal Government support. Not only does this produce good investigative results by bringing the right man to the right environment for work, but also the public relations aspect of such schemes are unparalleled for demonstrating one field of our national preeminence that is unchallenged and which cannot be ascribed to containing ulterior motives by even our most severe critics.

Currently several organizations sponsor study fellowships but actually very few aid the pure medical investigator (as opposed to the physician whose duties are medical service). This, it seems to me, is the single most promising program, where with moderate increase in expenditures a worthwhile program can be assisted.

4. The suggestion has been made to your committee that the U.S. Government sponsor international congresses. This I believe most unwise except under very special circumstances. In the vast majority of cases such conclaves are almost of negligible professional value. The social aspects of such meetings are enjoyable but the actual scientific merit is highly questionable. The papers are usually published elsewhere and the language barrier, despite complex microphone-earphone systems, makes free interchange of ideas rudimentary. Only when a very few highly qualified individuals in a highly specialized field are brought together with a minimum of fanfare do these meetings seem to produce worthwhile results. When such prior planning does take place the achievements are sometimes extremely valuable, but the hands-across-the-sea type of world congress is usually deadly from all but the social aspect. The Federal tax dollar should not be spent in such a manner.

5. The exact manner in which these objectives should be obtained is, of course, better known to others who are experts in government. The suggestion has been made, however, that an institute devoted to international studies be developed within the National Institutes of Health. My reaction is somewhat dubious to such a proposal, for it seems to me that each research problem should be analyzed by those specialists most cognizant of the field, not by international geopathologists. Thus, a research project involving nutrition and cardiovascular disease belongs in the hands of expert nutritionists, biochemists and cardiologists, not in a separate international studies institute. Within my own field of interest, problems of biliary tract disease, or cancer unique to an area should be evaluated by existing study sections where the best investigative brains in these fields already are gathered.

It seems to me that by liberalizing the granting policy to cover international studies and supporting highly qualified men in other countries, the highly successful research grant program can take care of the new needs.

I would be interested to hear more in this regard, for it is possible that a group of advisers on international medical research problems might assist in the planning of such projects. I do not think, however, that a new international institute should be developed which perforce would overlap and conflict with the interests of existing groups.

6. Finally, may I give my ideas concerning the tremendous and almost urgent need for establishing medical relations on a research and educational basis with mainland China. As one who has been mainly interested in medical problems in the Far East, I feel the importance of this with more force every time I work in the Orient. Medicine is one of the few fields in which our country is still held in esteem by the Chinese. The great tradition of medical assistance and education by our country to China has not quite been forgotten as far as I can tell. Each month that goes by makes this tradition more remote and thus more difficult to reestablish.

I firmly believe that as soon as practical within our foreign policy limitations, steps should be made to reestablish medical ties with Red China. Although others must obviously decide the feasibility of creating such exchanges before diplomatic recognition, it seems to me that this could be done. I feel certain from what I have observed in the Orient that small groups of highly qualified American surgeons and medical educators, for example, would be very welcome as a first step in reestablishing such vital contacts. Contrariwise, I know as secretary of the Society of University Surgeons that we would welcome qualified Chinese professors of surgery to our meetings and to our schools, could this be arranged. Two years ago I was responsible for inviting and playing host to three Russian surgeons in just fashion. The visit was worthwhile in all respects.

Thus, I feel that there is some immediacy in reestablishing medical contacts with Red China. It can do nothing but good to our national interests as far as I can see, and has nothing to do with whether we approve of their form of government. The fields of international medical research and assistance, I believe, will be most fruitful in mainland China, and the key to many of the problems that we have been studying for many years in southeast Asia I believe will be more easily found in China.

May I express my thanks to you and your committee for asking my advice in this regard and assure you that I will be happy to help further if requested.

Sincerely,

BEN EISEMAN, M.D., *Professor of Surgery.*

THE UNIVERSITY OF MICHIGAN,
Ann Arbor, July 8, 1959.

DEAR SENATOR HUMPHREY: I was pleased to receive your letter of April 20 together with the splendid report (No. 160) on international medical research. It was very heartening to see such thorough recognition, by you and the subcommittee, of the vast implications basic medical research holds for man's welfare, not only by advancement of knowledge, but also as an instrument of international peace. This is a particularly ingenious idea and we wish you the utmost of success in sponsoring it.

My ideas for implementing such a program are not novel and I offer them only as a token of support for procedures already prevalent. Let me, however, preface my views with a few words placing the work of your subcommittee in still another perspective.

The excellence of our science and technology provides one of our most powerful instruments in the ideological struggle which presently grips the world. The cultural influence which follows scientific leadership is enormous and I need not belabor this historical point. So long as the leadership is ours, the world will seek our knowledge, and in so doing inevitably assimilate a highly significant aspect of our culture. For freedom of ideas and the subjection of opinion to correction by fact is fundamental both to science and to our life. Promotion of scientific endeavor is thus a policy which is at once one of altruism and self-preservation.

In contributing to an international effort in the area of biological science our greatest offering is the wealth of knowledge in the laboratories throughout this country. We can endorse with utmost enthusiasm the policies of the National Institutes of Health to which this great achievement is in large measure due. This agency and the National Science Foundation merit complete confidence and generous support from Congress.

There are three general problems in the support of scientific endeavor in this country.

1. *Direct support of research and the universities.*—This is a complex problem. In the specific area of research, support seems adequate, but there is still much need for general support of universities and smaller colleges.

2. *Recruitment and support of students.*—This country has been laggard in recognizing the value and in providing advanced education for its citizens. Our slogan should be: "Complete education to all who merit it." The GI bill was a great step in this direction. We still need broadside support of college-level students. The recent legislation on this matter is a good sign but leaves much to be desired. No one should be handed an education unfettered with obligations, but there should be more assurance that actual needs will be met and more ways in which the obligation might be discharged. Personally, I think a successful system might be developed in which a young man spent his years 18 to 23 in the armed services, in civil service abroad, or in industry at home, doing the world's work, maturing and organizing himself for his career. He would then be much better prepared to benefit from advanced education and on the basis of this 5-year duty, adequate support for his education could be provided without mortgaging his financial future. Society would benefit both by his early labor and by his ultimate intellectual endeavor.

The problem of recruitment might vanish once college and graduate education was provided on the basis of talent without financial restriction. At present, however, there is widespread difficulty in identifying potential scientific talent, making students aware of the opportunities and attractions of a scientific

career and stimulating them toward it, and finally, overcoming the frequently shoddy preparation they have had for such a scholastic life. This demands drastic changes in the teaching philosophy at the secondary school level. Congress might consider further encouraging some of the needed changes by supporting a program for strengthening the teaching of science and mathematics through grants for purchase of equipment, motion pictures, teacher workshops, etc.

3. *Recognition and remuneration of scientists.*—Untrue to the prevalent public impression of them, the majority of scientists have more than sufficient energy and acumen to make a tidy fortune in the business world or in the practice of medicine. They thus accept a very real financial sacrifice for themselves and their families in pursuing a scientific career. This is as it should be, for the principal reward of such a career must never be monetary. But neither should the financial rewards be so slim as to turn talented people away. We are certainly much nearer the latter condition. For my first 5 years (1951–56) as an assistant professor in a well-known medical school, I made less money than my milkman, or my brother, 9 years my junior and without college education, made selling electrical appliances. This is a family sacrifice and not all families are up to it, irrespective of the talent and choice of the potential scientist.

Not only is this mundane matter an issue here in attracting people of the highest ability; the more intangible factor of "prestige" is at stake. Recognition in the eyes of one's fellows is one of the strongest human motivational forces. Unfortunately, but undeniably, prestige is usually very closely linked to level of remuneration. If it is wise to attract people of extraordinary ability into scientific endeavor, then the surest way to accomplish this is to increase the "prestige value" of such careers. Increasing the financial rewards of scientists would do much to produce this effect.

Now, at last, let me comment on the promotion of international medical research.

1. *Education.*—This country should stand ready to provide advanced education in the biological sciences to qualified persons regardless of nationality. At present there seems little likelihood that our educational facilities would be burdened by the number of applicants. Indeed, the problem is the reverse: finding those individuals, particularly in the Asian, African, and Latin American countries, who have the intelligence, motivation, and educational background to benefit from further studies in this country. Perhaps more students would be available if we announced such intentions and provided much more ready machinery for supporting those qualified.

Language and cultural barriers sometimes make it extremely difficult for the non-European student to meet our educational standards. There is some danger that such students become embittered by their experiences here. Even those that do, however, probably take with them important qualities of our culture and may still be useful as scientists. A different problem is posed by those who become so attracted with our life that they desire to remain here. These are all knotty questions involving our international relations as well as the problems of education and research. A solution well worth considering would be the establishment of a special university for foreign students where more expert attention could be given these specific problems. Perhaps better still would be UNESCO support for such a venture—a World University for Life Sciences.

2. *Support of research.*—Again the United States has much to gain both politically and for the ultimate health and well-being of its citizens by supporting meritorious research endeavor regardless of the nationality of those engaged in it. There are obviously many complex political and economic factors involved in such an undertaking, but as evidenced in Report No. 160 we have already made an excellent beginning. Expansion along these well-considered lines is in order.

3. *Indirect support of research.*—Ideas are the stuff of progress in research. Communication among scientists thus becomes a matter of prime importance. There are three major ways in which scientific ideas are exchanged: (*a*) through publication in widely circulated technical journals; (*b*) through extended visits of scientists in each other's laboratories; (*c*) through scientific meetings and conferences. At the international level support for (*c*) is just barely adequate, but there is probably not too much to be gained by any major increase. One of the most urgent things which needs doing in this area is the removal of whatever travel restrictions exist in this country for alien entry which makes international scientific meetings here a rare event.

Support for (*b*), while not particularly generous, may be sufficient for those few willing to take extended time away from their routine. It should be pointed out, however, that prolonged visits in foreign laboratories can be exceptionally fruitful since it permits not only the most thorough interchange of ideas and techniques but the actual putting the ideas to use in joint experimental undertaking. Support for (*b*) could thus afford to be generous. I will comment below on certain difficulties inherent in such exchanges with the Soviet area.

It is for item (*a*), support of scientific journals, that a little money seems needed to accomplish considerable good. Let me cite an example. The international journal, Electroencephalography and Clinical Neurophysiology, was established in 1949 and has carried in the ensuing years numerous articles on basic research which has revolutionized the study of the nervous system and its relation to behavior. Due to lack of funds this particular journal must now refuse such articles and instead publish only papers dealing with more routine clinical studies. The Journal of Neurophysiology is in a similar, though not as serious, situation and has recently been forced to enter upon still more restrictive editorial policies. Delay in publication of completed research in the basic neurological sciences is now running well over a year. Some form of subsidy is certainly indicated to enable the technical journals to achieve more prompt and especially more complete publication of accomplished work.

4. *International Institute of Biological Research.*—There is a dramatic need for such a permanent international undertaking. It would provide the world not only a powerful symbol of unity in man's purpose, but achievement as well, by promoting human health through knowledge. The needs filled by such an international institution are many. First, it would smooth the difficulties research now has in crossing political, economic, and cultural boundaries. A research institute could form the nucleus of a world university, mentioned above as an effective way of meeting some of the pressing educational needs of the less developed countries. Impartially administered and removed from political influence, on the same pattern as our National Institutes of Health, this agency could effectively administer grants and scholarships in support of research which on a national level might be impossible. It would provide needed academic positions, especially for the younger European scientists who, despite high talent, frequently cannot find research positions in their own countries.

By its international nature such an agency should remove the danger of political persecution resulting from scientific collaboration with persons in the Soviet sphere of influence. This is still a very real and dangerous problem as I can testify from a distressing personal experience. A colleague from Bucharest, Rumania, spent 3 months in my laboratory early in 1958. Upon his return he was removed from his academic post—an action, I am sure, not unrelated to his visit here. I have since received confidential word from him that any further communication from me might be dangerous to him. Our joint scientific undertaking, which was highly fruitful and may produce an entirely new line of research in this country, was thus made at a sorrowful cost. One would hope an international institute might provide facilities or sponsorship for such collaboration without such dire consequences.

I should think it possible for the United States to capture the imagination and cooperation of the world by vigorously promoting and supporting an international program of medical research. We might even consider a proposal to the Soviet Union that a certain proportion of the national effort now allotted to military expense be contributed jointly to international medical research pursuant to disarmament agreements. Think what an army division, otherwise trained, might do in attacking cancer. Khrushchev has challenged us to a subtle form of cultural-economic warfare. In the field of biological science we are exceedingly well equipped to accept that challenge—to the benefit of ourselves, and all the future generations of mankind.

Most sincerely,

ROBERT W. DOTY, Ph. D.,
Associate Professor of Physiology.

WORLDWIDE ASSISTANCE NEEDS

Senator HUMPHREY. Another view of the implications of assistance programs came from Dr. Robert A. Hingson, professor of anesthesia, School of Medicine, Western Reserve University, Cleveland, Ohio. Dr. Hingson was the leader of an interdenominational medical survey team which was sponsored by the Baptist World Alliance which rendered distinctive service to mission and international hospitals throughout Asia and Africa in the fall of 1958. The text of an editorial which he wrote for the American Practitioner and Digest of Treatment of October 1959 now follows:

[Reprinted from American Practitioner and Digest of Treatment, October 1959]

EDITORIAL VIEWS

The Physician and the Burning of Rome

In the first century A.D., a Roman emperor with a callous conscience observed the collapse of the acme of civilization in the burning of the Eternal City. Historians record that Nero fiddled as the flames consumed Rome.

During the past year, in a 45,000-mile journey a periglobal survey of medical missions and national hospitals of many faiths and sects was completed. Our team of 16 specialists in medicine, nursing, and nutrition, with hospital supply executives, paused in 32 countries of the outer rim of Asia and Africa to observe and record; and in some instances to render medical treatment. We found a world in which more than one-third of its occupants were being destroyed by the flames of disease. We knew that the world was sick—but it was much sicker than we thought!

As we, representing the specialties of anesthesia, medicine, obstetrics and gynecology, pediatrics, public health, and surgery, examined the hospitals, clinics, public health stations, and schools manned by the thousands of selfless and dedicated missionaries as our most tangible and consistent examples of concern for our neighbors, we came face to face with mankind's greatest enemy: disease. We observed its vectors, its tragic onslaught upon the economy of many nations, and its devastating and paralyzing effects upon men of all races. We who had observed the effects of World War II at close range became convinced that war ranks a poor third behind famine and disease in its destructive force.

After conferences with ministers of health and government officials in each of these nations; after study of the health statistical reports of each; after seeing the patients in the overpopulated city slums, in the villages, in the jungles and in the bush of these countries of more than 2 billion human beings; after immunizing 90,000 of them by American gift vaccines against poliomyelitis. cholera, or typhoid, we tabulated and estimated the disease problem in these nations. The 10 major diseases as we found them were:

	Cases
1. Malaria (new cases each year)	200,000,000
2. Tuberculosis	75,000,000
3. Malnutrition, including severe anemia, Kwashiorkor, starvation	50,000,000
4. Intestinal diseases of cholera, typhoid, dysentery caused by bacterial flora and amebae	50,000,000
5. Intestinal parasites and worms	150,000,000
6. Trachoma, affliction of eyes	50,000,000
7. Bilharzia or snail disease	50,000,000
8. Infectious diseases of the skin, yaws, jungle rot and smallpox	50,000,000
9. Severe mental apathy inconsistent with self-sustenance	25,000,000
10. Leprosy	20,000,000

One of our surgeons remarked to the writer after participating in this experience: "To consider one of the world's major health needs as surgery would be the same as fiddling while Rome burns." Indeed, in these days when many plans are being proposed by statesmen, physicians with limited experience in only one or two countries, neophytes of problems of monsoon, jungle and desert, specialists who plug a hobby, and "textbook specialists" in disease and international politics, we are getting ahead of reason in translating our emotions into action.

First there is a need for factfinding surveys in bilateral concert with the agricultural, educational, medical, engineering, sociologic and political leaders of the indigenous peoples toward whom we are directing our assistance. Only then can we tie man's resources intelligently to man's need in an acceptable form. Educational assistance can be offered when we are ready to carry through a continuing plan. The exchange students now in most of these countries and our country can pave the way.

The physician who has rendered such a creditable service in making America the healthiest nation in the world has much to share through coordinated effort, but he has much to learn too. Our medical schools which have geared their training to combating the diseases of our prosperous country to Main Street, U.S.A., can learn too through sending members of their faculties in rotation to assist in neighboring, friendly, and receptive underdeveloped countries. Teams of medical students in their free elective quarter, and young physicians in training, can be taught the principles of vaccination and immunization, and loaned to a specific area in which there has been prearranged transportation, sustenance and supervision and planned direction. Such would be a rewarding experience for the medical student, the physician in training and the responsible medical faculty as well. Such experience would enrich the institution and personnel who sponsor it toward becoming important factors in a world community. This loan of personnel could be effectively correlated with the splendid lifesaving gifts of supplies and food through our national philanthropy of CARE and our Christian medical mission programs.

The medical society at the county, State, regional and national levels within the framework of the American Medical Association and the World Medical Association, and within the framework of each specialty, has a definite responsibility, a challenge and an opportunity toward the alleviation of the world's suffering and in making the most meaningful contributions toward world peace. As a start each local county medical and dental society could adopt one single medical mission and supply it with continuing provisions of medical texts, instruments, and drugs. The immensity of the task should not ensnarl us in the whirlpool of attempting too much through dispersion of our efforts too far, too soon. There are 2 billion people in Asia and Africa alone or more than 10 people in urgent need for every single person in the United States. The majority of these people are under the domination economically or politically of "enlightened" European powers. As America tackles the problems of the world in such projects as the "Great White Fleet" of mothball hospital ships privately manned, in people-to-people's programs, with the "Medico," with the foundations, and with denominational missions (even though each of these is important in long-range ultimate objectives), there should be established first certain priorities and proving grounds and "trial flights" for mastering the same lessons that have been learned at Cape Canaveral, in the World Health Organization, in the United Nations, and in the historic contacts with the recipient nations themselves.

The Philippines, our most tested and trusted ally in the Pacific and a courageous lighthouse for democracy there, is in great need from a public health, educational and economic viewpoint—particularly in the southern islands. The west African nation of Liberia under the forceful and statesmanly leadership of President Tubman, which had its origin and its recent stimulus for development in the American ssytem of freedom for the individual and for progressive enterprise of industry, at present contributes significantly to our rubber and steel requirements. Liberia's health needs were greater per capita than those observed in any other nation in our survey, exclusive of Korea. Liberia furnished an essential landing field for 170,000 military flights during the launching of attack through north Africa into the captive citadel of Europe in World War II. Liberia would welcome our professional and our cooperative denominational help. With concerted action on the agricultural, educational, economic and health fronts we could immediately achieve the lasting friendships of people in great need in these countris in which there are no entanglements in European politics. Our present very laudable point 4 programs in southern Asia, in Indonesia, in the vacuum of India, are achieving commendable results on an unprecedented scale through multimillion dollar Federal assistance programs.

As we preach democracy and salvation we should keep our eyes on the fundamental health needs of Asia and Africa (all beginning with the letter "s") : (1) Sanitation, (2) sewers, (3) sprays, (4) screens, (5) schools, (6) soup, (7)

"shots," (8) shoes, (9) self-respect, and then only (10) salvation. We should first demonstrate in two areas mentioned above with 20 million in the Philippines and a possible 2 million in Liberia that we can "be faithful in a few things before we become ruler over many things." Indeed, the needs of the world are primarily public health and nutrition.

The development and application of the Salk vaccine has taught us the lesson that with all of our propaganda, all of our medical and scientific knowledge and skill of our physicians, we have protected only less than one-half of our population. Our needles, syringes, sterilization, transportation processes, and available personnel were simply not enough to tackle the social impediments of our well-organizd America. Twenty-six preparation minutes per injection through this approach has not eliminated poliomyelitis in America, now in its worst outbreak in 6 years, nor will it eliminate the millions of other pestilences which beset the world. For the past two decades the author of this editorial has developed the principle of jet inocculation, and now adapting the repeat jet principle from immense reservoirs we proved in inoculating 41,000 children and employees of the U.S. post office in Cleveland, and 90,000 on our world journey within a space of 4 months, that we can deliver one immunizing injection each 6 seconds without resterilization.

It will take such total mobilization of planned effort and mass volunteer teams of indoctrinated physicians who will donate their time to join other concerned Americans and world citizens of many nations and of all religious faiths who can provide transportation, equipment, diplomatic international contacts, education, and simultaneous agricultural and engineering assistance, to make lasting contributions in the vital field of world health and world peace. To dissipate effort in tackling all the world's problems at once in competition and out of step with the British and the French and the Belgians and the Dutch and the Russians, would be the equivalent of "fiddling while Rome burns."

Public health, improved nutrition, and education are the basic needs which must be supplied before the medical specialties of surgery, radiology, anesthesia, pathology, and physical therapy can be intelligently and effectively developed in these countries. Never before has the welfare of two continents presented itself before such a capable and scientific medical profession with such a limited timetable. We, the physicians, can and must extinguish the flames of mass disease and suffering in the vanguard of civilization's most promising era.

ROBERT A. HINGSON, M.D.,
Professor of Anesthesia, Western Reserve University School of Medicine, Senior Surgeon (R) USPHS.

Senator HUMPHREY. Reference has already been made to the work of numerous outstanding voluntary organizations.

Two are represented at this point because their officers have kindly assisted us by offering their personal judgment as to the past, present and future of international medical assistance. The first such message is from Edgar F. Berman, M.D. In this particular letter, Dr. Berman writes as an individual, not as President of "Medico." He presents a comprehensive four-part health plan for underdeveloped nations. His analysis is not only stimulating but evidences the type of broad-gaged approach which I, for one, feel is essential for progress in meeting the overall challenge in the emerging areas.

The second letter is from Mr. Robert Barnett, executive director of the American Foundation for the Blind, an organization which has long been in the vanguard of efforts on behalf of individuals who have lost their sight.

The letters follow:

BALTIMORE, MD., *September 29, 1960.*

MY DEAR SENATOR HUMPHREY: Thank you for the opportunity to present the enclosed plan which I hope will be of interest to you. It involves an entirely new approach to the international health obligations of the United States, and is based on my personal experiences in this field.

My judgment is derived from my medical observations in the South Pacific, China, Europe, and the Soviet Union.

As president of Medico, which is now directing 17 health projects in 12 underdeveloped nations throughout the world, I feel that the benefits of our total experiences could be extremely enlightening in relation to medical foreign aid.

Our most recent project in Haiti which initiates some of the phases of the proposed program will be of particular interest in following—it is considered as a pilot project.

The plan which is projected is not being presented in my official capacity with Medico.

Very truly yours,

EDGAR F. BERMAN, M.D.,
President, Medico (Medical International Cooperation).

COMPREHENSIVE HEALTH PLAN FOR UNDERDEVELOPED NATIONS

I. THE RESPONSIBILITY OF THE UNITED STATES

In a century where medical progress has approached the level where the difference between health and disease or life and death depends on just a few capsules, half the total population of the world have never, in their entire existence, had the opportunity of the services of a physician. Over a billion and a half people are exposed to, and many still die from, trivial diseases or those expunged from the more advanced societies more than 25 years ago, or remain crippled for life from minor trauma because of lack of care.

Today the destiny of individual nations is tied conclusively to those of all others. The disparity which exists between the developed and the underdeveloped nations must somehow be breeched so that mutual understanding can be effected. An overall program for health must be part of the overall plan of assistance to a nation gaining its independence in every way, not only politically.

The reactions of nations to medical aid (such as will be outlined) will have a great deal to do with the position of the United States in the future world. But our motives in giving aid must be free of the expectation that this will benefit us in any way. It should be a matter of policy that whatever plan is designed for international health cooperation, it be purely an act of a friendly nation interested in human progress, and be consistent with the feelings and aspirations of those aided, with no thought to the imposition of political, economic, or cultural systems to which we, the donors, adhere. This aid cannot be missionary in nature regardless of the political path a nation may take. We must give assistance to them as though they are our own, as though the political competition with the Soviet Union did not exist. We must allow them to develop freely. We must help them to eventually help themselves in the gigantic task of alleviating their physical and economic misery.

Most nations prefer cooperation and friendship to charity. Aid as charity has been responsible for creating much resentment. Aid with purely humanitarian motives has gained more steadfast friends for America than any kind of military or economic aid obviously designed to influence opinion and political atmosphere.

At this low level in America's prestige abroad, such a program, in the spirit of understanding and friendship, dedicated to healing their sick, training their healers, eradicating disease from their lands is of utmost importance to our own security and freedom. A humanitarian investment in health and welfare (without political motives) pays the highest political dividends.

This does not imply that a healthy nation would necesarily be friendly (even though we helped that nation to health); neither does it imply that a healthy nation is necessarily a peaceful nation. Health in itself will not necessarily guarantee peace. But the fight against human misery may be a precursor to peace and the lack of a health organization and health services to a peoples of a nation, with neither safeguards for the healthy nor succor for the ill, are deficiencies which can be exploited by powers seeking political gain in a naive, new, or underdeveloped nation. In the cold war this condition already exists.

Not only to meet this real threat to our existence, but to go ahead in a bold and imaginative way requires a vast pool of manpower. This is not available in a system such as ours without voluntary individual sacrifice, or mobilization under aegis. Every phase of social, industrial, commercial, and professional existence must participate. It will be the responsibility of every citizen to contribute a portion of his time and skills to help these peoples reach a decent standard of living and in turn to insure their own.

The health facet of the program is urgent. It must be wide in scope, well planned, and properly balanced for continuity. Above all, a basic precept must be the eventual total sustenance of the program by the host nation for a lasting effect.

Ideally, this program should be one undertaken by the United Nations when practicable.

THE PROBLEMS AND NEEDS FOR A NEW AND COMPREHENSIVE APPROACH TO INTERNATIONAL AID IN HEALTH

It has become increasingly obvious, in the light of recent events, that the United States must expand its program of aid to underdeveloped nations. One of the more important facets (in an integrated plan for foreign aid) is assistance in the field of international health.

Since the mutual security aid program has been in existence, experience has shown that technical aid is the type of assistance most needed, most appreciated, and most rational for the long-term growth and progress of a nation; aid to health is a keystone of this program. Health is fundamental. It catalyzes and insures the other basic factors in aid which could lead to self-sufficiency in a backward nation. Economic stability depends upon rupturing the cycle of "poverty-disease-poverty." In an overall program, economic progress can only ensue when the progress in health runs a parallel course (especially in nations where indigenous diseases incapacitate 30 to 40 percent of the population). The health program must interdigitate with the overall plan of economic and social assistance. It must be radically changed from the present approach to one which is comprehensive and perpetuative.

Until now the efforts of the United States in international health have been haphazard, unbalanced, and without vision or direction. There have been few real studies to assess the health needs of nations which were to receive aid. There have been no apparent long-term goals. Political motivation resulted in a stopgap kind of assistance which has been of minimal benefit to emerging nations. Precedence in aid has also frequently been on the basis of political expediency.

Heretofore Government agencies have taken too great a role in foreign health aid. They cannot and should not (for many reasons) be the sole agent in carrying out a comprehensive health plan. It will take a personal and collective sacrifice by thousands of Americans (physicians, nurses, and technicians) to implement this program. The voluntary agencies (CARE, Medico, etc.) and the private foundations (Ford, Rockefeller, etc.), with their obviously unselfish motivations, their lack of political orientation, their long experiences, and their dedicated personnel, are indispensable to such an endeavor.

Little thought has been given to the economic resources of the particular nation receiving assistance in relation to that nation's ability to continue the health program when aid ceases. Without a guarantee of continuity, the initiation of such programs must be viewed with question since the efforts and financial expenditures then become almost a total waste. Frequently continuity of a program has been intervened because of a lack of foresight in our budgeting. A program like this should not and cannot be planned on a year-to-year basis, but must be projected for at least a decade. In this regard the cost of a comprehensive health plan would be inexpensive in comparison to the costs of military aid. (The tiny nation of Laos, with a $300 million aid program, mostly military over a period of 5 years, has been virtually lost within a period of weeks or months.)

Continuity of a program depends also on the equally important factor of trained personnel. It would be impractical and almost impossible for any nation or group of nations to attempt to carry the personnel burden of underdeveloped or new nations indefinitely. Nor do the recipient nations desire this. In the past, few of these nations received assistance designed to develop their own resources of medical personnel.

This problem is tremendous at this point in history because so little has been done in an organized and planned way in the past. The full realization of this is blatantly portrayed in most of the new African nations where colonial powers have been in control for at least half a century, with no resultant medical organizations and a negligible number of nationals trained in public health or medicine.

Many phases of our efforts in international health have been mere gestures. In an area of human endeavor, so serious and important to a backward nation's health and growth, gestures must be deplored. Our aid in the past has yielded

little in the way of permanent results primarily because the health programs instituted by the United States were not balanced and sustained. A successful program must eventually culminate in an efficient organization administrated and staffed by the host nation. If this is to be attained, the importance of having the host nation participate actively in every phase of the program (from its inception) cannot be overemphasized.

It is absolutely essential that the recipient nation, in its medical development, be trained to train their own personnel in order to achieve self-dependence at a future time. To this end an intensive educational program must be initiated both here and abroad, in every phase of health, so the host nation can eventually maintain its own program.

In this regard there would be the question of our own limited resources in personnel and facilities to carry on such an educational program for a period of at least a decade. However, the absolute importance of this program to the United States and the world makes it incumbent on every medical institution in this country to strain its every facility, and for all individuals in the field of health to volunteer their talents and time toward making such a program a reality.

In addition to the long-range educational plans, there are immediate aspects to a complete program, namely, the prevention of disease now, and the treatment of those who are ill today. So far, assistance from the United States has been predominantly in the field of preventive medicine. Clinical services have been almost completely neglected. These two aspects of medical aid must work together (with the supporting elements of nutrition and the social services) or neither will be effective.

It is important, regardless of the geographic scope of the program, that no specific project be initiated following the survey unless the second, third, and fourth phases of the five major components in the comprehensive plan to be outlined be simultaneously initiated and carried to their successful conclusion.

This is a great challenge, but it is also late and a beginning must be soon.

III. OUTLINE OF COMPREHENSIVE HEALTH PLAN FOR UNDERDEVELOPED NATIONS

A complete program which will lay the basis of a fundamental medical organization must have five interdependent facets:

1. An adequate survey of individual nations to determine the overall medical conditions and resources.
2. A full public health program including epidemiology, sanitation, nutrition, and public health education.
3. Interim medical services (diagnosis and therapy of disease)—to render services to the ill until their own medical resources can cope with it by establishing a chain of simple but adequate medical facilities which will eventually become the fundamental units of a medical service network.
4. Medical education and training—to supply native physicians, teachers, and auxiliary medical personnel for the future.
5. International research—to incorporate the creative faculties of all people in a cooperative effort to eradicate disease.

1. Medical survey

The overall planning of a medical program (as the one contemplated) must be done with an adequate background of the need. At present, medical data for most of the underdeveloped nations is scanty and incomplete (for example, Africa) from every conceivable source.

A planned survey must be accomplished nation by nation to reveal the medical standards, if any, the diseases extant, the personnel available, the nutritional status, and the resources in medical materiel and equipment. This data must eventually be correlated and related to the geographic position, population densities, climatic conditions, the economic and intellectual resources, and the cultural background of the specific nation with the degree of development of industry, utilities, and communications.

A survey such as this * * * will save much time, energy, and duplication and will insure the specific aid needed by a specific nation. For example, the Latin American countries vary as to personnel, standards, equipment, etc., with each other as much as the continent itself differs from another continent, such as Africa.

This study would be designed to point up needs in medical education, services, and public health facilities which might necessitate entirely different approaches in assistance. It would also determine the precedence of nations for assistance, the urgency of it, and which phase to emphasize.

If available, the nation's own medical personnel should be an integral part of the survey teams. It is essential that experienced personnel do the study and that it be collated and analyzed by experts. Medical schools and schools of public health in the United States have the personnel and could possibly do this on a unit basis, subsidized by Government, and with specific schools assigned to specific nations. Many private physicians would volunteer for this type of teamwork.

2. Public health

All phases of this, including nutrition, epidemiology, sanitation, and public health education are at present under official organizations all over the world (U.S. Public Health Service, World Health Organization, Pan American Sanitation Bureau, and International Cooperation Administration) or under voluntary agencies such as the Rockefeller Foundation, etc. The need to expand these programs is essential.

At present these are thinly scattered all over the world (especially the U.S. effort), and rarely encompass a complete program. It would be more logical to do a job more completely, country by country, than do it inadequately over a larger area.

Private foundations should play a larger role in this phase of the project. Nutrition, a long neglected element in the area of public health, must be emphasized and coordinated with food programs.

The public health phase of this plan must be closely integrated with the other components (medical services, education, and research) for maximum and lasting effect.

3. Interim medical services

In the interim period, while the personnel of a nation are being trained (item 4) in public health and medicine, it is absolutely essential to render simple but adequate medical care. This has long been neglected except by a few voluntary organizations.

To make available to every human being relief from suffering, and to provide the security that results from knowing help is available if illness strikes is of fundamental importance. This type of service, more than any other, has the most direct and lasting effect in creating a sympathetic attitude toward the giver.

Providing this aid with reciprocal respect and dignity produces profound gratification on the part of the recipient because of the person-to-person contact in situations so vital to a community, and because of the apparent lack of ulterior motives. This is the type of aid which no propaganda can possibly subvert.

Medical services (diagnosis and therapy of illness) are of utmost importance if preventive medicine is to be successful. They are interdependent and symbiotic. It must be reiterated that a large segment of the population of these nations is afflicted with tuberculosis, malaria, intestinal parasites, and malnutrition which hinder their economic growth.

In their present status of development, as in most of Africa and southeast Asia, many nations have but few physicians trained to treat the hundreds of millions of people. Ninety percent of the population of underdeveloped nations live and die without ever having the services of a physician.

The problem of supplying diagnostic and therapeutic facilities and supplies to vast numbers of people could be implemented with relatively little expense by using the already prepared and packaged Department of Defense hospitals. Their cost is minimal for a 100- or 200-bed unit with all diagnostic and therapeutic equipment, complete with water purification apparatus, laboratories, wards, operating rooms, X-ray, etc. This equipment could be housed in tents which use has been proven utilitarian and durable in every respect. With these units patients could be treated simply but effectively in the most economic way possible. These could be manned partly by Government personnel, but mainly by voluntary American physicians (with local physicians if available), through organizations dedicated to this purpose.

It has been determined that if only 2 percent of American physicians, nurses, and auxiliary personnel gave 6 months of their entire professional career in a humanitarian program such as this, they could treat 30 million patients a year. This program should first be initiated in areas where there are little or no medical services available.

Eventually these installations, which would remain when the U.S. personnel leaves, could be the fundamental network of a clinical service system, staffed by local physicians and nurses, who, in the interim, have been trained in the United States or in their own nation.

More durable housing for the equipment could be built when economics permit. These hospitals would also serve as the immediate training locales for auxiliary medical personnel. These would generally be located in the larger villages in areas of great population density, and be the focal points and means by which public health, nutrition, and sanitary education could permeate entire areas. Hundreds of these units would be needed, strategically located.

A network of these units could be integrated into a whole by mobile units servicing smaller village dispensaries, and by its communication with larger and more complete urban medical facilities. Tent hospitals of the type described would be best to begin with because of their availability, ease of transportation, erection, and low maintenance costs. They are practical, inexpensive, easy to operate, and adaptable as to climate and topography.

4. Medical education and training

In the long-range view, all of these medical facilities must be staffed by native professional people. Heretofore there has been no plan projected for the training of sufficient professional personnel to take over and operate the entire system by themselves.

As mentioned in the previous paragraphs, the clinical units would be treating people of these nations and helping to train those available while waiting for their young doctors and nurses to be educated and trained. A basic network of workable hospitals would have been established for them to return to, administrate, and work in on completion of their education. In 1958, while in the Soviet Union, I saw that approximately 25 percent of all the Soviet medical students in Moscow were African Negro, Chinese, and southeast Asian. At that time there was contemplated in the Soviet Union a medical school primarily for these people in which not only education in medicine would be offered, but indoctrination into the Soviet theories as well. This is an extremely important propaganda method used by the Soviets.

In October of 1960 a Peoples Friendship University will open in Moscow and will cater to students from Latin America, Africa, and Asia. Under this program medicine will have a 5-year course. All training is to be totally free with free maintenance, grants, medical aid, hotel accommodations, and pay for travel to and from Moscow. A preparatory faculty has been formed to help the students brush up on their academic work and these students may go to these preparatory courses for up to 3 years. All students will have 1 year of study in the Russian languages under specialists. According to Soviet plans, they will invite eminent scientists and scholars from various countries in Asia, Africa, and Latin America to serve on the faculty and participate in the building of this university. This university will encompass engineering, medicine, physics, mathematics, history, philology, and economics.

Examination for admission takes place in the student's own country. Within 5 years, the Soviet officials have announced, they will admit from three to four thousand students yearly. The Soviets feel this an excellent investment, as costly as it will be.

An educational program in medicine for the underdeveloped nations will take at least 10 years, according to the degree of advancement of the nation aided, and could produce enough personnel to supply these nations with physicians and medical teachers, nurses, and technicians to initiate and propagate their own medical services and medical education system permanently.

One of the great difficulties in the early stages of such a plan would be the acquisition of sufficient students with secondary school education ready to begin college work. If not available, they must be sent to the United States for preparatory work. Four plans, all of which may run simultaneously, could be accomplished:

A. Each of the 78 U.S. medical schools, by giving 10 scholarships, Government sponsored, to college graduates (or their equivalents) of the most needy nations, would produce about 800 finished physicians in the fifth year. Within 10 years, 4,000 well-trained physicians could be graduated.

It may be necessary with some nations, for the first 6 months to a year of this program, to concentrate on overcoming the language barrier of the students.

Of the above-mentioned total, 25 percent or 200 per year, according to their ability and desire, should go on to a 3- to 5-year resident training with board qualifications, to become the teachers in the medical school of their nation. This would supply approximately 2,000 teachers at the end of 15 years.

B. Another similar group, those with secondary school education, would be sent throughout the United States for both undergraduate and medical education. This would take approximately a 10-year period for clinicians, with a smaller percentage going into medical education.

C. An accelerated program which could be instituted by setting up 1 medical school here in the United States to accommodate 200 students a year for a 2-year concentrated premedical course, and a 3-year concentrated medical course, with 1-year interneship preferably in a major U.S. medical center, where part-time teachers could do their part in this voluntary effort. This could produce 200 practicing physicians every year beginning in the sixth year.

D. At the same time a medical school should be initiated in every nation, or an existing school brought up to standards. The most feasible system would be the close affiliation of a specific nation with one of the major U.S. medical schools, subsidized by Government to supervise every aspect of the medical education in that nation for the length of time necessary.

Leaves of absence of varying periods of time could be arranged by the medical schools for their oversea teachers. The undergraduate school should arrange aid in language study.

This same medical school, as proposed in the previous paragraphs, could possibly train the small percentage of students who would eventually teach in the medical school with which they are affiliated. Regardless of the aegis under which the national medical school will function, thousands of retired physicians, medical educators, and administrators would be available for many of these posts.

It would be mandatory that any student coming to the United States to train in any capacity return for at least a 5-year period to his native land. It would be extremely detrimental to the entire program if any of these students, becoming accustomed to the high standard of living here, be allowed to stay.

5. International research

Research in medicine is not just a luxury attained after reaching a certain stage in clinical achievement. Research in medicine is the unseen future which may make our present accomplishments seem almost empiric. The misery and premature death caused by many illnesses extant all over the world are in the process of extinction today in the laboratories. Illnesses of any nature, uncontrolled, affects man universally and by the same token is the universal responsibility of all men of medicine.

This last facet of a total program which must incorporate all nations, including the underdeveloped ones, is a broad plan to coordinate and promote the war against disease on a worldwide basis. As Dr. Howard Rusk has so cogently stated in his proposal to initiate an international health and medical research act, "The United States has no monopoly on creative imagination, ingenuity, and research potentials."

This act would be, in essence, the fifth point in the program whereby men of all nations would be welded in an alliance among researchers. It would break the isolation and ignorance of each others' work and eliminate the time lag in the solution of man's physical and mental ills. Its effect would be tremendously increased by coordinated and complementary actions, and it would place the United States in the position of affirmation of its beneficence to the welfare of man wherever he may be.

IV. ADDENDA

Elucidation of Some Factors Previously Discussed

1. Qualified professional personnel.
2. The voluntary agencies—The role they will play in relation to a government project in international health.
3. Participation of the nation being aided.
4. Integration of the program into our own educational system.

1. Personnel

An extremely important factor in this program will be qualified personnel—physicians, nurses, technicians, and adjuvant auxiliaries. If this project is to be under Government aegis, it would be impossible to secure enough physicians through the International Cooperation Administration or the U.S. Public Health Service. The bulk of the 17,000 medical personnel in the Government health services now are not clinicians but public health specialists.

Unless there is some type of mobilization of physicians, it would be impossible to staff this program except on a voluntary part-time basis. In regard to this, I would like to state that in the spring of 1958 a month was spent working in the first Moscow Medical Institute. At this time it was stated by the Minister of Health, and later confirmed, that the Soviets educate and train three times the number of physicians and technicians that we do. This year the Soviets graduated 25,000 physicians while the United States graduated under 8,000. I was told at that time that the Soviets can and will send up to 3,000 physicians and auxiliary personnel anywhere in the underdeveloped world where needed as they, too, have realized the importance of medicine in the field of diplomacy.

The United States, without some general emergency mobilization, could get a very small percentage of this number of physicians to work under Government aegis and can hardly compete with the Soviet Union (where all medical personnel are Government employees and are placed where necessary). However, American physicians, and this has been proven by a survey, will voluntarily donate a certain portion of their professional career (from 3 months to 2 years) to a private organization, dedicated to aiding the peoples of underdeveloped nations. Ideologically, the impact of this program on the recipient nation by the voluntary effort is an impressive act consistent with the true meaning and working of a democracy.

If this were generally being done in medicine and other fields, and the proper public relations given to it, a higher percentage than already known would be available. Auxiliary services, such as nurses and technicians, seem to be even easier to obtain. If a broad program is intended, it will be dependent on part-time voluntary efforts of the professions and their auxiliaries.

There is no question that there will be language difficulties and adjustments to foreign cultures and standards. However, these problems are not major ones in the practice of medicine in foreign countries.

It has been found that the source of personnel would be the average physician and nurse who volunteer for service with voluntary organizations, and would be those who have just completed their training, those who are financially able to do so, or those who are retired. There is a vast number of retired physicians who would be available for this purpose.

Another source of personnel could be using a proportion of physicians for this work in lieu of military service. Even now physicians can work at the National Institutes of Health and the U.S. Public Health Service in place of their military service. Physicians who are conscientious objectors may also be utilized. It would not be unusual for medical schools to arrange leaves of absence (up to 1 year) for many of their house officers and full-time staff for this type of duty. This would benefit not only the people aided, but the physicians giving the services.

2. Voluntary agencies

Certain phases of this program could hardly be run without private agencies. There is no question that in the field of public health the U.S. Public Health Service, the International Cooperation Administration, and the World Health Organization, knowing full well their limitations and weaknesses, have the most experience and can do an excellent job on an extended basis. However, the Rockefeller Foundation has also done a magnificent job in this field. Government agencies couldn't possibly run the medical services or medical educational phases of this program in scope without the assistance of private voluntary organizations or institutions. It is questionable if the Government could attract private organizations to work with them except on a special basis.

A voluntary organization must function without Government restriction, political influence, or legal strictures. Although receiving Government subsidy, it must have complete autonomy with their own responsible controls. The program should avail itself of voluntary international health organizations wherever possible.

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It has been our experience here with Medico, and it has been found by other organizations, that foreign nations, especially the new ones, are highly suspect and sensitive to formal government aid in whatever form it is given. The lurking suspicion of political motives is always present with official programs, while on the other hand, private organizations are readily accepted with little or no concern as to ulterior motives. Private organizations can do a job less expensively than government. Usually the raison d'être for these organizations is associated with an altruistic theme, and because of this, workers for voluntary organizations apply themselves with more vigor, give longer hours, and usually do a better job. It is generally known that the position of the government physician degenerates into just another job. It does not attract the best talent and there is rarely the dedication.

The private agencies already have their administrative staffs and the experience and know-how in their specific fields (Medico, CARE, etc.) which would not require duplication. Private organizations stimulate the people of the United States to feel the desire to personally contribute, in some part, to the welfare of the people in underdeveloped areas.

3. Participation of the nation being aided

Political dangers are inherent in all-out giving. Nations psychologically resent needing help and being dependent. Nationalism usually accents the feeling against the giver, who is an implied superior. It would be necessary for the nation being aided to participate actively in the program, and to sacrifice, to a degree, both in materiel and personnel.

They must carry a certain percentage of the burden to prevent it from being a charitable venture. They should certainly provide choice personnel to be trained, internal transportation, a certain degree of sustenance, food and lodging for American personnel, a percentage of their own personnel (already trained, if available), buildings, warehouses, duty-free entry and whatever their wherewithal can stand without being a tremendous economic burden, thus making it a joint venture.

Participation could be made economically feasible by loans to sustain them while they are evolving.

4. Integration of the program into our own educational system

Integrating this program into our own educational organizations, primarily medical, here in the United States will be an added burden to our already overloaded system. The overall aid program must be long range and the medical aspects of the educational phase will be one of the most fruitful in terms of bettering understanding between nations.

Every field must participate in this aid and every educational facility must be worked over capacity or expanded. Every one in the education profession in every field must give more than he does today. And every student must begin and continue his preparation now for a life in an international milieu. This means concentration on the study of foreign cultures with emphasis on languages.

Educators in the medical field must be prepared to spend periods of time abroad, and medical institutions must plan for this. Medical schools must be prepared to increase enrollment for at least a 10- to 15-year period, and research must suffer (if necessary, to a degree) for education.

It will also be necessary to incorporate the students of all lands into our own educational system—from secondary schools through professional schools, and to have them part of our everyday American life.

AMERICAN FOUNDATION FOR THE BLIND, INC.,
New York, N.Y., September 15, 1960.

DEAR SENATOR HUMPHREY: I recently received a release from the "International Health Study" inviting my reactions to the work to date of your subcommittee and its study on international health and medical research as well as my judgment on future policy of our Government in international medical cooperation. I have asked members of my staff to help me in appraising the work of your subcommittee and to indicate to me their thinking on future policy. I transmit our reactions and recommendations to you in my capacities of executive director of both the American Foundation for the Blind and the American Foundation for Overseas Blind, the latter with offices in Paris, Manila, and Santiago, Chile.

It is my opinion after studying part I of the hearings before your subcommittee and Public Law 86–610 that the work of the "International Health Study" has been of uniformly high quality, imaginative in a new area of speculation, and extremely purposeful to those of us who deal with the handicapped and their problems throughout the world. Your medical research project director, Julius N. Cahn, deserves a great deal of credit for this excellent work. I would like to comment in some detail on points raised in both the hearings (pt. I) and Public Law 86–610 in the paragraphs that follow.

Thinking of medical research in broad terms to encompass the handicapped (as I believe your study ably sets forth), I can wholeheartedly agree with Dr. Paul Dudley White that "research by international teams is the highest type of international medical relationship," and that the "joint efforts of closely integrated teams" are necessary, as stated in the Joint Report of the Research and Social Committee of the International Society of Cardiology, September 1958.

I am particularly glad to see that the scope of your study was broad (p. 24) and that you have seen fit to include foundations interested in health problems. As one such foundation, we welcome the general acknowledgment of our efforts to improve the lot of visually handicapped people throughout the world, as I am sure internationally oriented foundations have done.

I think that the testimony of Dr. Edward L. Bortz points up an important concern of many of us: that no one group of specialists has a "monopoly on welfare" but that qualified research of all kinds concerned with the welfare of the individual should be encouraged. Particularly is this so when it comes to combating the images people hold of the handicapped, because, as Dr. Margaret Mead has said to your subcommittee, "We rob them of the fully humanity by the images that we have of them." Those of us in work with the blind are fully aware of the meaning of that statement. We need the full competence of all the medical, psychological, and social sciences in our research efforts, particularly abroad. It is interesting to note that the Centre National de la Recherche Scientifique of France has taken this approach.

We, working with the blind, feel that research in this field offers a unique opportunity much as Dr. William Lennox has testified to your subcommittee concerning possible research on epilepsy: "In a contracting social world the ability to explain and correct prejudice is of growing importance. The deep-rooted stigma attached to epilepsy provides an experimental testing ground." I believe that the same can be said of blindness and that the goodwill that would result from undertaking research that would point out ways of combating such prejudices and giving blind people a full, purposeful life would be consistent with the aims and goals of the work of your subcommittee. It would strengthen the "image for compassion," as Dr. James Shannon puts it, that Americans have abroad.

I am glad to see included in your hearings part I a report of the rehabilitation research on the blind being conducted by the Institute of Occupational Health in Finland as well as the work of Dr. Arthur Parmalee of the Medical School of the University of California at Los Angeles, particularly since Dr. Parmalee has been closely associated with our foundation in an important longitudinal study of premature children with retrolental fibroplasia. I would certainly second the statement of Dr. Alexandre Minkowski that work such as Dr. Parmalee's should be supported by long-term grants that obviate the necessity of valuable time being periodically lost to raise funds for continuing the research. Your subcommittee might well go on record as favoring indefinite subsidization of outstanding research specialists as well as research institutes if we are to conquer the physically and mentally crippling diseases that afflict the sick and handicapped people of the world. I know from my personal trips around the world to the societies and institutes for the blind that no better use of our public moneys could be made. Such efforts would without question be in our national interest.

I would like to close with a few remarks about Public Law 86–610, to establish a National Institute for International Health and Medical Research, to provide for international cooperation in health research, research training, and research planning. I am wholly in accord with the purposes and provisions of this bill and I hope that they will be energetically carried through by adequate appropriations and by leadership of the highest caliber. I note with pleasure the provision "to conduct and support health research and research training, including research and research training relating to rehabilitation of the handicapped." As I have said, there is much to be done in this field.

As chairman of the Technical Research Committee of the World Council for the Welfare of the Blind, I am particularly pleased with the provision to "encourage and support international communication in the sciences relating to health by means of calling or cooperating in the convening, financing, or contributing to the financing of the expenses of international scientific meetings and conferences." Feeling the need for some time to hold an international congress on technological research in our field, as executive director of the American Foundation for the Blind, I recently applied for and was awarded a planning grant from the Office of Vocational Rehabilitation for that purpose. Our project staff is assembled and work in planning the congress has begun. It is our hope that in 12 to 18 months our plans will materialize in a scientific congress that will review the latest worldwide technological developments of use in the rehabilitation of the blind. If your subcommittee wishes, I would be only too pleased to keep you informed of the progress of our planning staff. We are, of course, delighted that Public Law 86-610 recognizes the promise of such meetings and that everyone connected with the passage of this bill was farsighted enough to appreciate that those of us concerned with the health and welfare of handicapped persons have felt that this is a useful device to improve their lot and to promote international understanding.

I heartily commend the work of your subcommittee and of the "International Health Study" and hope that its promise may be realized. You may rest assured that many of us who realize its worth will do our best to contribute to its success.

Very sincerely yours,

M. ROBERT BARNETT.

CORRESPONDENCE ON MENTAL RETARDATION

Senator HUMPHREY. In conclusion, it should be reiterated that, there are many multidisciplinary challenges, over and above those cited within these volumes, on which the subcommittee has corresponded in considerable depth and scope in the United States and abroad. It would require another volume of this size to quote from the correspondence and memorandums on some of these other topics.

To illustrate, I cite the important problem of mental retardation. On this one subject, we have contacted, among others, Dr. Peter W. Bowman, general chairman, the First International Conference on Mental Retardation; Dr. Gunnar Dybwad, executive director, National Association for Retarded Children, and Mrs. Stanley High, chairman, NARC's International Relations Committee; the National Foundation; the International Union for Child Welfare; and the World Health Organization.

In the Federal Government, our contacts have been with the Social Security Administration, Office of Education, Office of Vocational Rehabilitation, and the National Institutes for Neurological Diseases and Blindness and for Mental Health.

On the basis of these many contacts, I believe we are in a stronger position to develop useful recommendations for the Congress on expanded international cooperation to deal with the many phases of this problem. Observers, for example, have stressed that there is now no explicit statutory authority for U.S. dollar appropriations for international exchanges or other forms of cooperation on mental retardation, unless for research, or for research training or research demonstration purposes. Yet, the need here is not only to discover new knowledge, but to apply knowledge long since available. Foreign nations possess a wide pool of experience from which the United States might draw in dealing with the problems of the mentally retarded. In turn, we could contribute internationally much more than at present to this field, if Congress so authorized.

Section F

THE INTERNATIONAL HEALTH STUDY

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Section F. The International Health Study

Senator Humphrey. This section is designed to provide perspective as to the approach of the subcommittee in compiling information under this study.

A. BRIEF SUMMARY OF THE HISTORY OF THIS STUDY

Senate Resolution 347, 85th Congress, authorizing this international health study (see pt. 1, p. 97), was approved on August 18, 1958. The resolution provided for a report to the Senate by January 31, 1959.

In order to attempt to comply with this deadline, if only by obtaining as much preliminary information as feasible, I arranged for the immediate preparation of a preliminary outline of the subcommittee's interest.

This outline was prepared by Mr. Julius N. Cahn, who was working with other Senators and myself at that time in his capacity as consultant to the Committee on Foreign Relations. In the past, he had, among other duties, assisted me in connection with various amendments and bills which I had introduced on international medical research and international medical assistance.

After appropriate review, the outline was distributed as of September 9, 1958, to various interested agencies of the United States Government. While the outline was necessarily prepared with dispatch, I believe that it has stood the test of time and that it admirably served its purpose.

Thanks to this outline, the agencies were enabled to commence prompt reports to the subcommittee.

It was not until October 16, 1958, that Mr. Cahn was personally able to complete other official commitments and to commence formal activity as project director of this subcommittee's study. In the meanwhile, however, the agencies were well under way in complying with the subcommittee's information needs.

By January 31, 1959, the subcommittee had developed an important body of information for its own and the Senate's use. The subcommittee reported to the Committee on Government Operations, as a whole, and it, in turn, reported to the Committee on Rules. The latter in Senate Report 22, 86th Congress, First Session, commented on the subcommittee's initial activity and publications and recommended extension of the study.

This was accomplished under S. Res. 42, 86th Congress, approved February 3, 1959. A new terminal date of January 31, 1960, was thereby authorized. Subsequently, by S. Res. 255, 86th Congress, enacted April 11, 1960, a new date of January 31, 1961, was set for the final report.

On February 13, 1961, the Senate approved S. Res. 26, 87th Congress, extending our review of "interagency coordination" through January 31, 1962.

B. THE PRELIMINARY OUTLINE OF SEPTEMBER 9, 1958

To assure full understanding of the initial approach of our subcommittee, its preliminary outline is reprinted at this point.

STUDY OF INTERNATIONAL HEALTH PROGRAMS

INTRODUCTORY NOTE BY SENATOR HUBERT H. HUMPHREY

SEPTEMBER 8, 1958.

The Chairman of the Senate Committee on Government Operations has designated the Subcommittee on Reorganization and International Organizations to carry out the study of international health programs contemplated under Senate Resolution 347, 85th Congress, approved August 18, 1958.

As chairman of this subcommittee, I know that my associates desire to inform interested official agencies and organizations, and private individuals and groups of the specific purposes and procedures of the subcommittee in making this study. Unfortunately, in the rush of events at the time of the adjournment of the Congress, and shortly thereafter, it has not proved feasible to determine the detailed views of the subcommittee members.

An early deadline does, however, face us, in that the Resolution specifies a report by January 31, 1959. Therefore, in order to avoid delay, I have drafted the enclosed statement, merely to serve as a preliminary guide and for discussion purposes at the outset. Subject to the views of other members of the subcommittee, this tentative work plan indicates both the possible areas of subcommittee interest and the areas regarded as beyond the jurisdiction of the study.

OUTLINE

PURPOSES AND PROCEDURES OF THE STUDY

1. Purpose
2. Focus: International Medical Research and Service
3. Background
4. Official Organizations to be Reviewed: United States and Intergovernmental Organizations
5. Private International Health Activities
6. Questions To Be Asked
7. Relationships with other Senate Committees
8. Staff
9 Travel
10. Background Committee Prints

1. PURPOSE

The Subcommittee on Reorganization and International Organizations has as its objective the goals stated in Senate Resolution 347, 85th Congress—surveying international health programs, in which our Government is a participant and which affect our own and other peoples.

Specifically, the subcommittee will study the many international health programs in which the United States Government is directly engaged and/or which it financially supports so as to determine:

(a) What Now Is Being Done, by whom, where, when, how, with what standards, at what cost, and with what objectives in mind?

(b) In the event of any duplication, inefficiency, or other operational problems, what changes might be made?

Where changes appear necessary, the subcommittee intends to develop recommendations whereby the resources of the taxpayers of the United States may be used with increasing efficiency.

2. FOCUS: INTERNATIONAL MEDICAL RESEARCH AND SERVICE

The focus of this subcommittee survey will be two-fold. Subject to the limitations which will be indicated hereinafter, the focus will be on:

(a) International medical *research* programs which are being conducted to find the answers to the mysteries of those major diseases whose causes or cures are now unknown.

(b) International medical *assistance or service programs* which are being conducted to help peoples lacking adequate resources to combat widespread infections and other afflictions, in addition to programs carrying out quarantine and related efforts of cooperation.

3. BACKGROUND

The Committee on Government Operations is interested in documenting what is being done by the executive branch in pursuance of the laws already enacted by the Congress. It is beyond the purview of the subcommittee to question the basic purposes of the laws, as such, or to suggest new goals. It is clear that the Congress of the United States has, by its statutory actions, already set forth what it regards as sound Federal policies in the international health field. The goal of the study is therefore to determine how these policies are actually being implemented.

Our authorizing legislation, Senate Resolution 347, states in its preamble the value of medical research and service programs in the improvement of world health standards.

4. OFFICIAL ORGANIZATIONS TO BE REVIEWED: UNITED STATES AND INTERGOVERNMENTAL ORGANIZATIONS

a. U.S. Departments and Agencies Engaged in Medical Research Programs

The United States agencies listed below are involved in medical-biological research. Such research, wherever it may be conducted, draws from and contributes to the fund of knowledge available throughout the world on health problems. The subcommittee is interested, therefore, in all these official research activities, whether they are performed here or overseas or involve foreign nationals directly.

The agencies are:

1. Department of Health, Education, and Welfare
2. Atomic Energy Commission
3. Veterans' Administration
4. Department of Defense—Army, Navy, and Air Force
5. Department of Agriculture
6. National Science Foundation
7. Office of Civil and Defense Mobilization

b. International Governmental Organizations with Health Activities

1. United Nations (e.g. special scientific committees)
2. United Nations Technical Assistance
3. World Health Organization
4. Pan American Sanitary Organization
5. United Nations Children's Fund
6. Food and Agricultural Organization
7. United Nations Relief and Works Agency (Arab Refugees)
8. United Nations Educational, Scientific and Cultural Organization
9. International Labor Organization
10. South Pacific Commission
11. International Atomic Energy Agency
12. International Civil Aviation Organization (e.g., health quarantine, etc.)
13. Colombo Plan

c. U.S. Departments and Agencies Responsible for Policy and/or Administration of International Health Assistance Programs

1. Department of State
2. International Cooperation Administration
3. Department of Health, Education, and Welfare

d. Others

1. Interdepartmental Committee on Nutrition for National Defense
2. National Research Council—National Academy of Sciences

5. PRIVATE INTERNATIONAL HEALTH ACTIVITIES

A major purpose of the subcommittee is to study the relationship between official oversea health activities and private activities. Private American organizations have a long history of notable contributions to international health,

e.g., in aid fields of tropical medicine, in oversea health demonstration projects, in training programs, etc.

The subcommittee intends to document such current direct contributions in recognition of the vital role of private, voluntary effort overseas. It should be noted, too, that in many instances, personnel of private organizations working beyond our borders have come in contact—formally or informally—with U.S. Governmental health programs overseas. Such private personnel may be in a position therefore to convey helpful reactions to the subcommittee on the official programs, as such.

The subcommittee proposes therefore to invite factual reports from competent private individuals and organizations. Generally speaking, *domestic* activities of such private organizations are not within the the purview of this study. However, domestic activities involving programmed use of foreign exchange personnel or involving other *direct and substantial* international relationships would be of definite interest.

The type of private groups which the subcommittee intends to contact:

(a) American medical and allied professional organizations, e.g., American Medical Association, American Dental Association, American Nurses' Association, etc.

(b) International medical and allied professional organizations, such as the World Medical Association.

(c) Research directors of major American voluntary health, research and rehabilitation organizations, e.g., American Heart Association, American Cancer Society, etc.

(d) Major research institutes, e.g., Rockefeller Institute of Medical Research.

(e) Major foundations, particularly those with strong emphasis on oversea programs—Rockefeller Foundation, W. K. Kellogg Foundation, Near East Foundation, Ford Foundation, etc.

(f) Experts of university and hospital research facilities.

(g) Deans and other leaders in Schools of Public Health, together with other health officers.

(h) Independent research laboratories.

(i) Religious organizations with oversea health assistance programs.

(j) Secular organizations providing health aid overseas, such as CARE, MEDICO, etc., or providing disaster relief, e.g., American National Red Cross.

(k) Private pharmaceutical and other companies (e.g., chemical manufacturing companies, businesses producing electronic and other research tools, etc.) in addition to associations, e.g., American Pharmaceutical Association.

(l) Other professional organizations in the life sciences like the American Institute of Biological Sciences, etc.

(m) Organizations interested in international health, e.g., Citizens Committee for the World Health Organization, Committee on Medicine and the Health Professions of the People-to-People Program, World Veterans' Federation, etc.

6. QUESTIONS TO BE ASKED

a. Types of Questions

(1) *Internal Relationships*

Within the limited time available, the subcommittee will study the structure and machinery within the United States Government for carrying on its own international health programs.

Relationships between programs will be one of the principal concerns of the study, e.g.: Coordination in policy formulation and execution among the various U.S. agencies—(e.g., between basic research grants by the National Science Foundation and the grants of the National Institutes of Health).

(2) *External Relationships*

(a) The subcommittee will also study coordination between bilateral and multilateral programs (e.g., between the diverse health exchange, traineeship, and fellowship programs, handled by many of the agencies).

(b) Among multilateral programs (e.g., malarial eradication work, as between FAO and UNICEF, nutritional work as between FAO and UNICEF).

b. Questions on U.S. Agencies

To the extent that time is available, the subcommittee will consider these 10 target-type questions, with respect to U.S. agencies:

(1) *Activities.*—What precisely is being done, when, where, by whom, at what cost and with what objective in mind?

(2) *Authority.*—Is there a clear statutory and administrative basis for the activities?

(3) *Efficiency.*—How are the respective international health offices of the departments and agencies using their manpower and other resources to fulfill their assigned missions?

(4) *Division of Labor.*—How has manpower been apportioned in order to achieve goals?

(5) *Coordination.*—To what extent and through what means may prompt and continuous coordination be effected?

(6) *Priorities.*—What, if any, is the system of priorities in goals and in expenditures?

(7) *Private and Public.*—As indicated earlier, what are the existing relationships between private and public activity in the various fields?

(8) *U.S. and Foreign.*—What are the demarcated areas of activity between United States and foreign activity?

(9) *Counterpart Currencies.*—What is the basis on which decisions are made as to the use of U.S. dollars, as distinguished from counterpart currencies?

(10) *Modern Tools.*—Are modern methods and equipment being utilized, insofar as necessary and feasible, for such purposes as speed, accuracy, and economy; e.g., electronic computers? If not, why not?

c. Questions on Multilateral Programs

The health activities of international organizations in which the United States participates are many and varied.

The subcommittee will seek to document the highlights of such health activities, especially as they relate most significantly to the U.S. Government's own programs. The diverse activities of the World Health Organization will naturally be in particular focus, but time will only permit a limited survey.

d. Questions which the subcommittee may ask in relation to the multilateral organizations include:

(1) *Principal Activities.*—What basically is being done healthwise by the various intergovernmental organizations, where, when, how, by whom, and at what cost (in terms of U.S. regular and special contributions).

(2) *Contributions.*—What are the factors governing the level of current U.S. contributions to the various programs?

(3) *Relationships.*—What is the basis for differentiation in work between related activities of various organizations?

7. RELATIONSHIPS WITH OTHER SENATE COMMITTEES

The Senate Committee on Government Operations has a broad responsibility, under the Rules of the Senate and the Legislative Reorganization Law.

a. Authority of This Committee

Rule XXV provides, in part:

1. The following standing committees shall be appointed at the commencement of each Congress with leave to report by bill or otherwise:

* * * * *

(g) (1) Committee on Government Operations, to consist of thirteen Senators, to which Committee shall be referred all proposed legislation, messages, petitions, memorials, and other matters relating to the following subjects:

(A) Budget and accounting measures, other than appropriations.

(B) Reorganizations in the executive branch of the Government.

(2) Such committee shall have the duty of—

* * * * *

(B) studying the operation of Government activities at all levels with a view to determining its economy and efficiency;

* * * * *

(D) studying intergovernmental relationships between the United States and the States and municipalities, and between the United States and international organizations of which the United States is a member.

b. Other Committees' Authority

The subcommittee clearly recognizes and fully respects the respective jurisdictions and experience of other committees.

The subcommittee invites the presence, suggestions, and assistance of individual Senators and aid of staff, to the extent it may be available for consultation from such committees as:

(1) The Senate Committee on Foreign Relations.
(2) The Senate Committee on Labor and Public Welfare.
(3) The Senate Committee on Appropriations.
(4) The Senate Committee on Armed Services.

c. Areas Which Will Be Avoided

Care will be taken to avoid those areas which, while related, are properly within the jurisdiction of other standing committees.

Thus, the subcommittee will refrain from reviewing:

(1) Domestic health activities in the United States, as such (except insofar as they bear significantly upon official U.S. international health programs).

(2) Medical care programs for veterans and for servicemen and their dependents. Oversea health activities by the armed services which directly affect foreign populations will be included.

(3) Any specific legislation, as such, proposed in the 85th Congress or expected to be offered in the 86th Congress, in the international health field.

(4) The substance of our existing or proposed foreign relations, as such, with individual countries or regions or blocs.

(5) The substantive quality of existing programs. The subcommittee does not have either the technical manpower or the time or responsibility to attempt to evaluate the technical caliber of present activities. Clearly, evaluation of the details of medical research and service would pose complex problems, even to the most skilled medical personnel.

8. STAFF

As indicated in Senate Report No. 2360, filed by the Committee on Rules, staff requirements will be held to the minimum necessary to achieve the goals of S. Res. 347.

Staff will consist of:

a. Existing staff of the Committee on Government Operations, including its Staff Director-Chief Clerk who has had many years of experience in reviews of official programs, together with a member of the present professional staff who has also had extensive experience in relation to international organizations.

b. A temporary professional staff member, skilled in foreign relations and in health review work, who is on leave to serve as director of this project under Senate Resolution 347.

c. Expert assistance from interested agencies, on a reimbursable or nonreimbursable basis, depending upon the nature and length of the work. However, the subcommittee will seek to avoid placing any undue burden on personnel in the executive agencies.

9. TRAVEL

The subcommittee intends to utilize to the greatest extent possible, upon data and direct testimony available in the greater Washington area, including the Pan American Sanitary Organization in Washington and the National Institutes of Health in Bethesda. Where necessary, subcommittee members and staff may journey elsewhere in order to visit selected installations for the purpose of securing:

a. Direct comments from experts not available here.

b. On-the-scene study of operations at oversea headquarters or in regional, zone, mission or other offices.

Out-of-city visits may include, subject to the availability of subcommittee members, and the working out of prior arrangements:

(1) Offices of multi-governmental organizations—e.g., the World Health Organization in Geneva.

(2) Leading American private or public research facilities outside the greater Washington area, e.g., Sloan-Kettering Institute, and/or New York University Institute of Physical Medicine and Rehabilitation.

(3) Major research facilities in the free world.

(4) Possibly, one or more major research facilities in the Soviet bloc.

10. BACKGROUND COMMITTEE PRINTS

The subcommittee believes that the publication, prior to hearings, of a series of background committee prints, will contribute materially to an understanding of international health.

The fullest cooperation of agency and private experts will be sought in this and other phases of the subcommittee program.

Initial plans include the possibility of committee prints, devoted to such subjects as:

a. The interrelationship of American and foreign medical research.

b. Medical research and oversea health service by the U.S.S.R.

Extensive use of charts is intended in these and other subcommittee publications in order to assure maximum utility.

In addition to the subjects already cited, the subcommittee may publish documentation with respect to existing U.S. unilateral, bilateral, and multilateral programs, as material is received, reviewed, and edited.

C. CHRONOLOGY OF ACTIONS OF THE SUBCOMMITTEE

Senator HUMPHREY. In October-November 1958 the staff director of the project visited European researchers and institutions in order to compile preliminary information.

On November 5, 1958, the first of the subcommittee's prints entitled "International Medical Research" was printed.

Within two weeks thereafter, I, as chairman of the subcommittee commenced an intensive 3-week tour of European research institutions, based upon the recommendations which Mr. Cahn had made following his initial trip.

Observations made during that trip and the resulting substantive findings with reference to the World Health Organization will be found in committee print No. 4, "The United States and the World Health Organization." This publication, in the main, is directed toward consideration of the key role of WHO in world health.

On July 9 and 16, 1959, hearings were held in Washington, D.C. The testimony and memoranda prepared by witnesses were published as part I of this hearing volume series. Part I likewise contained transcripts, memoranda and letters based upon our November-December 1958 tour of Europe.

On July 30, 1959, a meeting of the subcommittee was held with representatives of interested Federal and voluntary agencies relative to the use of American-owned currency in Poland for construction of the American Research Hospital for children at the University of Krakow. Subsequently, $50,000 in local currencies was appropriated by the Congress in accordance with section 400(c) of the Mutual Security Act of 1954—known as the Zablocki-Humphrey Amendment in Public Law 86-108.

A further development in connection with the hospital in Krakow occurred in connection with Mutual Security Appropriations Act for fiscal year 1961, Public Law 86–704, approved September 2, 1960. Provision was made therein as follows:

Special Assistance, special authorization: For assistance authorized by section 400(c) for hospital construction, $1,500,000 to be used to purchase foreign currencies which the Department of the Treasury may determine to be excess to the normal requirements of the United States.

This sum is to be used for the purchase of Polish zlotys so as to commence construction of the hospital.

ADDITIONAL COMMITTEE PRINTS

During these past 2 years, additional committee prints, as listed in part I, page 175, have been published.

These prints are basically factual compilations, compiled by the staff with the aid of cooperating sources and contain findings by the chairman of the subcommittee. But neither the prints nor this part represent the formal views of the subcommittee itself, pending issuance of its own final report under the study.

D. ACKNOWLEDGMENT OF ASSISTANCE

In the final report to be issued by the subcommittee, acknowledgment will be made of the invaluable assistance rendered to the subcommittee by many able officials in the United States Government and by many distinguished individuals in private life. Within the pages of each of the committee prints, such courtesies are gratefully acknowledged.

Special mention should be made at this point of certain individuals to whom particular thanks is due for their assistance to the subcommittee:

In the Department of Health, Education, and Welfare:
H. Van Zile Hyde, M.D.
Michael Shimkin, M.D.
James Hundley, M.D.
Charles Kidd, Ph. D.
Mr. Joseph Murtaugh.
Mr. George Payne.
Mr. Karl Yordy.
Mr. Jaroslav Nemec.

In the Department of State: Mr. Laurence Wyatt.

In the International Cooperation Administration:
Eugene Campbell, M.D.
Frederick Brady, M.D.

In the Bio-Sciences Information Exchange, Smithsonian Institution: Stella Læche Deignan, Ph. D.

In the Library of Congress:
I. M. Labovitz
Elizabeth Hanunian (for her able translation assistance).

In the Congress itself, numerous staff experts of other committees have been of assistance.

The staff of the Senate Committee on Government Operations itself has aided the subcommittee in many connections, notably in the services of Mr. Walter Reynolds, chief clerk and staff director, and Mr. Arthur A. Sharp, professional staff member.

E. CONSULTATION OF OTHER CONGRESSIONAL AND EXECUTIVE BRANCH DOCUMENTATION

The subcommittee has sought to make fullest possible use of documentation prepared by—

(*a*) other committees of the Congress.
(*b*) agencies of the executive branch.
(*c*) intergovernmental organizations.
(*d*) nongovernmental organizations.

In every instance, we have sought to expand upon data and develop new phases rather than merely reprint information otherwise readily available. Where, however, data might be in print but in relatively inaccessible form, we have drawn upon and republished pertinent extracts.

One of the most popular and highly valued recent references is that which was filed by a Committee of Consultants to the Subcommittee on Appropriations for the Departments of Labor and Health, Education, and Welfare. This report, entitled "Federal Support of Medical Research," was filed with the Honorable Lister Hill, Chairman of the Appropriations Subcommittee, in May of 1960. It was written under the able chairmanship of Boisfeuillet Jones, then Vice President and Administrator of Health Services, Emory University, Atlanta, Georgia. Among its bibliographical references, the Consultants' Committee kindly referred to several publications prepared by this subcommittee.

We are happy, in turn, to acknowledge that the consultants' findings of fact and judgment proved invaluable to this subcommittee in its study.

F. AWARD WINNERS CONTACTED BY THE SUBCOMMITTEE

Senator HUMPHREY. The pages of this volume reflect the wide variety of distinguished individuals contacted by the subcommittee in order to obtain expert opinions.

In order to be certain of the best possible cross-section of scientific opinion in the United States and throughout the world, the subcommittee concentrated on certain groups of individuals who have been recognized as outstanding by their peers.

One such obvious group consists, of course, of the winners of the Nobel Prize. Another group constituted the winners of the Distinguished Service Medal of the American Medical Association.

A third group which is mentioned now consists of winners of the Lasker Award.

The very existence of prizes of this nature serves many simultaneous goals of public service. For example, it affords appropriate recognition to selfless men and women who devote their lives to the cause of humanity. It provides an expert nucleus of individuals whose valued judgment can be solicited with confidence by medical science and, in this instance, by laymen such as ourselves.

Lasker Award Winners Contacted

For example, Dr. George Papanicolaou who testified before us (part 1, pp 61 ff) is a Lasker Award Winner whom we have contacted many times for his sage counsel.

Among other Lasker awardees whose letters are reproduced within this or the preceding volume include: H. J. Muller, Ph. D., (part 1, pp 26 ff); George Wells Beadle, Ph. D.; Hans Krebs, Ph. D.; Selman A. Waksman, Ph. D., all four of whom were also Nobel Laureates; Jonas Salk, M.D. (part 1, page 32), Leona Baumgartner, M.D., Nathan S. Kline, M.D., Howard A. Rusk, M.D., and many others.

The Lasker Awards have meant so much to medical science that I feel it is very appropriate to elaborate on them at this point.

The annual awards are given by the Albert and Mary Lasker Foundation through the American Public Health Association. The awards are given to individuals and groups for outstanding contributions in research related to diseases which are the main causes of death and disability, and for distinguished service in the field of public health.

The awards were conceived not only to honor the recipients and dramatize their accomplishments, but also to arouse increased professional and public interest in medical research and public health administration and to aid in the rapid dissemination of vital new health information to the medical and public health professions and to the public. (Lasker awards in medical journalism are particularly valuable for the latter goal.)

Since the Lasker Awards were established in 1946, ten winners have later received Nobel Prizes.

I feel that the entire human race is indebted to winners of the Lasker Awards and to winners of the Nobel Prize and A.M.A. Distinguished Service Medals.

So that the record will be complete, there will be printed now the names of all of the Lasker Award winners from the years 1946–1959.

These men and women are truly great figures in the fight for a happier, healthier world.

Recipients of the Lasker Awards, 1946–60

1960:

Francis H. C. Crick
James D. Watson
Maurice H. F. Wilkins
Abel Wolman
James V. Neel
Lionel S. Penrose
Ernst Ruska
James Hillier
John B. Grant, M.D.

The following groups were cited:

Crippled Children's Program, Children's Bureau, U.S. Department of Health, Education and Welfare
Chronic Disease Program, California Department of Public Health, Berkeley, Calif.

1959:

Albert Coons, M.D.
Gilbert Dalldorf, M.D.
Jules Freund, M.D.
John Holmes Dingle, M.D.
Maurice Pate
Senator Lister Hill
Congressman John E. Fogarty

1958:

Basil O'Connor
Robert W. Wilkins, M.D.
Peyton Rous, M.D.
Theodore Puck, Ph. D.
Alfred D. Hershey, Ph. D.
Gerhard Schramm, Ph. D., and Heinz Fraenkel-Conrat, M.D., Ph. D., jointly

1957:

Reginald M. Atwater, M.D.
F. G. Boudreau, M.D.
C. J. Van Slyke, M.D.
R. J. Vakil, M.D.
Nathan S. Kline, M.D.
Robert H. Noce, M.D.
Henri Laborit, M.D.
Pierre Deniker, M.D.
Heinz E. Lehmann, M.D.
Richard E. Shope, M.D.

1956:

Alan Gregg, M.D.
William P. Shepard, M.D.
Jonas Salk, M.D.

Recipients of the Lasker Awards, 1946–60—Continued

1956:

V. Everett Kinsey, Ph. D. and Arnall Patz, M.D., jointly

Karl Meyer, M.D. and Francis O. Schmitt, D. Sc., jointly

The following groups were cited:

Food and Drug Administration, U.S. Department of Health, Education, and Welfare

Medical Care Program, United Mine Workers of America, Welfare and Retirement Fund

1955:

Robert D. Defries, M.D.

Karl Paul Link, Ph. D.

C. Walton Lillehei, M.D., Morley Cohen, M.D., Herbert Warden, M.D., and Richard L. Varco, M.D., jointly.

The following groups were cited:

The Menninger Foundation—Drs. Karl and William Menninger

Nursing Services of the U.S. Public Health Service (Lucile Petry Leone, R.N., Pearl McIver, R.N., and Margaret G. Arnstein, R.N.)

The Hoffmann-LaRoche Research Laboratories, the Squibb Institute for Medical Research, Edward H. Robitzek, M.D., Irving Selikoff, M.D., Walsh McDermott, M.D., and Carl Muschenheim, M.D.

1954:

Leona Baumgartner, M.D.

Edwin B. Astwood, M.D.

John F. Enders, Ph. D.

Alfred Blalock, M.D., Helen B. Taussig, M.D., and Robert E. Gross, M.D., jointly

The following groups were cited:

Streptococcal Disease Laboratory, Armed Forces Epidemiological Board, Francis E. Warren Air Force Base, Charles H. Rammelkamp, Jr., M.D.

1953:

Hans A. Krebs, Ph. D.

Michael Heidelberger, Ph. D.

George Wald, Ph. D.

Earle Phelps, C.E.

Felix Underwood, M.D.

The following groups were cited:

Division of Research Grants, National Insitutes of Health

University Laboratory of Physical Chemistry Related to Medicine, Harvard University

1952:

G. Brock Chisholm, M.D.

Howard A. Rusk, M.D.

F. Macfarlane Burnet, M.D.

Conrad A. Elvehjem, Ph. D.

C.-E. A. Winslow, Dr. P.H.

Frederick S. McKay, D.D.S., and H. Trendley Dean, D.D.S., jointly

1951:

Karl F. Meyer, M.D.

Florence R. Sabin, M.D.

William Gordon Lennox, M.D. and Frederic Andrews Gibbs, M.D., jointly

Elise L'Esperance, M.D., and Catharine Macfarlane, M.D., jointly

The following groups were cited:

Alcoholics Anonymous

Health Insurance Plan of Greater New York

1950:

George Wells Beadle, Ph. D.

Eugene L. Bishop, M.D.

George Papanicolaou, M.D.

The following group was cited:

The International Health Division of the Rockefeller Foundation

1949:

Haven Emerson, M.D.

Andre Cournand, M.D.

Marion W. Sheahan, R.N.

Max Theiler, L.R.C.P.

William S. Tillet, M.D., and L. R. Christensen, M.D., jointly

Edward C. Kendall, Ph. D., and Philip S. Hench, M.D., jointly

The following groups were cited:

The American Academy of Pediatrics

The Life Insurance Medical Research Fund

1948:

Selman A. Waksman, Ph. D., and Rene J. Dubos, M.D., jointly

Vincent du Vigneaud, Ph. D.

Martha M. Eliot, M.D.

R. E. Dyer, M.D.

The following group was cited:

The Department of Medicine and Surgery, Veterans' Administration, Paul R. Hawley, M.D., and Paul B. Magnuson, M.D.

1947:

Oswald T. Avery, M.D.

Thomas Francis, Jr., M.D.

Homer Smith, D. Sc.

Alice Hamilton, M.D.

Thomas Parran, M.D.

Recipients of the Lasker Awards, 1946–60—Continued

The following groups were cited:
The British Ministries of Food and Health
The United States Committee on Joint Causes of Death

1946:
Carl Ferdinand Cori, M.D.
Alexander S. Weiner, M.D., Philip Levine, M.D., and Karl Landsteiner, Ph. D. (posthumously), jointly
John Friend Mahoney, M.D.

1946:
Alfred Newton Richards, Ph. D.
Fred L. Soper, M.D.

The following groups were cited:
The Army Epidemiological Board
The Board for the Coordination of Malarial Studies
The Bureau of Entomology and Plant Quarantine
The National Institutes of Health
The Northern Regional Research Laboratory

In conferring the 1959 Awards upon the two distinguished Members of Congress, the Lasker Award Committee described their contributions as follows:

Senator Lister Hill, "in nearly a half-century of public service, has applied himself untiringly to efforts for health progress. His contributions include co-sponsorship of the Hill-Burton Act which has added over 120,000 hospital beds in communities throughout the nation; the Research Facilities Construction Act which authorizes $30 million a year for matching grants-in-aid in the construction of facilities for research in the life sciences by institutions throughout the country; co-sponsorship of the measure establishing the National Institutes of Health which today include institutions for research into cancer, heart diseases, mental health, allergy and infectious diseases, arthritis and metabolic diseases and blindness and dental ailments.

"Seeking still further to carry medical research to its logical dimensions, Senator Hill introduced the 'Health for Peace Act' which would set up an International Medical Research Institute to carry out specific programs and coordinate research throughout the world for a 'common attack and a common advance against the crippling killers of mankind'."

Representative John E. Fogarty's "distinguished service to public health * * * is noteworthy both for public recognition and for the acclaim of scientists and organizations concerned with the conduct and support of medical research for the people's benefit.

"Championing the advancement of medical and dental research and of public health, Mr. Fogarty has, indeed, won wide recognition along the whole range of interests devoted to medical and biological research * * *.

"Over a score of years, Congressman Fogarty has given unstintingly of himself in public service. In this long service, his leadership, in the House of Representatives of the United States Congress, is responsible for many landmarks of progress in advancing the support of medical research. The expanded attack of the National Institutes of Health on our major diseases owes much to Congressman Fogarty. He has also been especially concerned with the plight of our sick, crippled, and mentally retarded children. He has recognized that medical research is worldwide in its needs and potentialities through his co-sponsorship of the International Medical Research Act."

G. REACTIONS TO SENATE STUDY

Senator HUMPHREY. Deep interest has been manifested in the subcommittee's work from its very inception.

As far back as September 22, 1958, a medical newsletter in Washington referred to the vast scope of the study, and indicated that its "possible results are limited only by the imagination." It pointed out that the study might have a particular effect on the work of nongovernmental organizations in the international health field.

Subsequently, another medical publication referred to the study as "the most comprehensive analysis ever made by either the Executive Branch or the Legislative Branch in the field of international medical research and/or international medical assistance."

Our various committee prints have been quoted throughout the world's medical press. Entire sections have been reprinted verbatim both in United States and in foreign professional periodicals.

Use of Subcommittee Findings

Perhaps the best appraisal is seen in terms of the actual use of the subcommittee's findings to date.

The subcommittee's policy was to make available its findings of fact to other Congressional committees and to the executive branch as fast as developed in order to be of optimum use. The Bureau of the Budget asked, for example, if it might be in a position to refer publicly to informatiton on oversea health assistance, as compiled by the subcommittee (in large part, with bureau aid) in testimony by its representatives before the Senate Appropriations Committee; permission was freely granted.

Various experts of the National Academy of Sciences-National Research Council have drawn upon subcommittee findings, as have many private medical investigators who have inquired for information from the subcommittee during these past two years.

Once information was circulated that a source such as this subcommittee was collecting central-type information on the work of the U.S. Government as a whole, literally hundreds of inquiries poured in from all parts of the country and the world, asking for data on various Federal research and health programs.

In addition, Congressional offices referred many visitors both from the United States and abroad to the subcommittee. The subcommittee and its staff were happy to furnish information to the extent of their ability, to these many visitors and mail inquiries.

Reactions by Correspondence

Correspondence reprinted within preceding pages contains many gracious comments with regard to the Senate subcommittee's study. These kind comments are referred to at this point, not because they reflect credit on the members of the subcommittee and on its staff; rather, we cite these endorsements in part because they confirm the inherent warmth with which efforts in the field of international medical cooperation are received.

I believe I reflect the views of my colleagues on the subcommittee in stating that if we have made a contribution to this field in our work to date, then we have good cause to be gratified, because this is a most inspiring field in which to serve.

U.S. Senate Deserves Credit

Principally, however, it is my view that it is the Senate of the United States which should receive the credit. It is the Senate which unanimously approved the funds and the authority for our study. It is the Senate whose prestige throughout the world has enabled us to secure so outstanding a degree of cooperation from scientists of so many Nations. It is the Senate which despite its thousand and one legislative obligations in the form of political, economic, military, social, and related challenges at home or abroad renewed in April 1960 our opportunity to work in a field of this nature.

Senators' Comments on Study

The response to our work on the part of Members of the Senate and House of Representatives has been most generous. I have previously brought to the attention of my colleagues the considerate reactions of the Senate's dean in the field of health legislation, the distinguished chairman of the Senate Committee on Labor and Public Welfare, Senator Lister Hill. I will mention now the views of our able associate, the junior Senator from Florida, the Honorable George Smathers. In commenting upon the subject of the ninth of our series of committee prints on "Health in the Americas," my colleague wrote:

> There's certainly no problem in the hemisphere that needs attention more than that of improving health and sanitation standards of millions of Latin Americans.

Report by Dr. John M. Bishop

As to how fruitful our work may actually have been, we will attempt to indicate in our final report. At this stage, we will but cite various reactions from additional letters and reports.

The first such report cited in this section was not prepared for our subcommittee, as such. It can be regarded as an especially objective appraisal, particularly in view of its authorship by an expert physician, John M. Bishop, M.D. Late in 1959, he conducted an intensive survey of international medical research and assistance activities on the part of the United States. The survey included contacts with over 102 persons who were personally interviewed in addition to 10 persons contacted by telephone or letter. These represented 71 organizations or groups active in international health activities.

Writing about the Senate's study in his 247-page report, Dr. Bishop stated:

> * * * this Senate study is very extensive. It has done much to stimulate the interest of organizations in the United States in the field of international medicine and health, and can be attributed as one of the important factors in causing the increased activity in this field since 1958. Senator Humphrey, Mr. Cahn, and * * * members of the subcommittee have urged greater cooperation in international health matters in speeches during public appearances, and have publicized international health through press, radio, and television in an effort to raise the sights in the United States regarding health needs of foreign governments and peoples.
>
> * * * * * * *
>
> This work is being conducted by a very capable layman who has worked as a health educator, Mr. Julius N. Cahn. He is probably the best oriented and most informed American in this field today.
>
> * * * * * * *

Other Commendations

In responding to an invitation for reactions to our review, Raymond Jonnard, D.Sc., Director of Laboratory of the Prudential Insurance Company of America, Newark, New Jersey, referred to the study's "monumental work" already accomplished.

The following are but a few of the literally hundreds of additional endorsements of the study received to date.

Stafford L. Warren, M.D., dean, School of Medicine, University of California Medical Center, Los Angeles, Calif.:

As a Dean of Medicine I have found the reports of your committees' Hearings which you have sent on to me of great value in my own analysis of the trends of medical education as they might affect our own program, as well as that of medical manpower developments, research, and medical care. They represent the best, and in many cases the only, source of material gathered from every interested group and put together in one place.

* * * * * * *

I am certain that other deans of medical schools and university administrators find them to be of similar value. Please keep me on your list. I would particularly like to have part I if it is still available, and part II when it becomes available.

I hope that you and your committee keep up this work of dedication to our future progress.

I. S. Ravdin, M.D., University Hospital, 3400 Spruce Street, Philadelphia, Pa.:

I have just received your communication of the 3rd of July concerning the publications which your subcommittee plans to send to some of us. I am exceedingly anxious to receive these communications.

You have made a magnificent contribution in furthering our international medical cooperation, and you have done a magnificent job in furthering the interest of medical research in this country.

With best regards.

Roland I. Pritikin, M.D., president, Henry Holland Hospital's Alumni Association, 1211 Talcott Building, Rockford, Ill.:

* * * the work of your committee and of our Government's efforts in this field have made a profound impression on people everywhere. I have been comparing the situation as it was in 1956–57 and 58 in various parts of the world with the situation this year. Have visited the medical facilities of a great part of the world during the past ten years and was with eye surgical mission in Central Asia earlier this year.

* * * * * * *

Edward R. Pinckney, M.D., editor, Student American Medical Association, 130 North Ledoux Road, Beverly Hills, Calif.:

The publications which your committee has produced have not only been of excellent quality but of extreme educational value, particularly to me as a physician. The epidemiological information you have offered is of great diagnostic and therapeutic importance, and if your material has the wide distribution it should have, it will educate both doctor and patient toward better health for all. May I take this opportunity to commend you on this non-partisan activity, the vast majority of which should prove of inestimable value to public health.

The few personal comments I should like to make concerning the committee prints and future health policy of the United States Government are as follows:

* * * * * * *

So much of your committee prints could be a valuable part of medical education were they put in the right educators' hands. I am thinking particularly of the cancer exhibit, and only wish there were some way that this, and some of your other publications, could be part of the medical school curricula.

* * * * * * *

C. I. Crowther, president, Leonard Wood Memorial, One Madison Avenue, New York, N.Y.:

* * * * * * *

I cannot commend too highly the efforts of your committee in promoting greater interest on the part of the United States Government in international health and medical research.

* * * * * * *

F. S. Cheever, M.D., dean, University of Pittsburgh, School of Medicine, Pittsburgh, Pa.:

I want to thank you for sending me your comprehensive report, "United States and the World Health Organization," which I have read with profit and pleasure. It gives a clear and lucid exposition of the workings of an organization which is most important to the well-being of our United States. I agree with your 10 principal findings and particularly with your statement on page 4 where you say "Only when the highest echelons of Government take a deep and continuing interest in health problems can further substantial progress be made."

* * * * * * *

E. G. McGavran, M.D., M.P.H., dean, the University of North Carolina, School of Public Health, Chapel Hill, N.C.:

I am in receipt of your committee report on "The Status of World Health," and wish to congratulate you upon the excellence and conciseness of this report. It is a most valuable document, demographically and epidemiologically.

Our School of Public Health plans to incorporate this material into our regular instructional program * * *

Again may I express our thanks for an excellent and useful document.

Athol J. Patterson, assistant professor, Public Health Administration, The Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Md.:

* * * * * * *

I would like to take the opportunity of congratulating you on the very high caliber of the publications which have so far been made.

I have found these of very great interest and of assistance to me in teaching of international health in this school.

* * * * * * *

W. K. Whiteford, president, Gulf Oil Corporation, Gulf Building, Pittsburgh, Pa.:

* * * * * * *

I heartily endorse the study that your committee is making, looking, as I understand it, toward a higher degree of coordination between various organizations, both governmental and quasi-governmental in these fields.

* * * * * * *

S. O. Waife, M.D., editor in chief, The American Journal of Clinical Nutrition, 11 East 36th Street, New York, N.Y.

* * * * * * *

I think the subcommittee should be congratulated on the fine work they are doing in the field of international medical research.

* * * * * * *

A. H. Wells, M.D., editor, Minnesota Medicine, 915 East First Street, Duluth, Minn.:

The thoroughness in which you have gone about compiling information and getting advice in connection with your subcommittee is indeed commendable. One can never tell where a good idea will come from, and the more sources, the more likely a well-prepared program.

* * * * * * *

R. F. Marschner, Assistant Secretary, Standard Oil Foundation, Inc., 910 South Michigan Avenue, Chicago, Ill.:

* * * * * * *

Your subcommittee has been unstinting in its expenditure of time and effort devoted to understanding the sciences and to defining their place in government. And we are most appreciative for your words of encouragement to private American philanthropy.

* * * * * * *

R. De Cock, M.D., president, International Hospital Federation, 34, King Street, London, E.C.2, England:

* * * * * * *

Your personal interest and leadership and that of your colleagues on the subcommittee of the United States Senate is inspiring and should do much to advance further our common objective of a state of good health which we desire for all mankind.

* * * * * * *

Samuel Pruzansky, D.D.S., associate director, Cleft Palate Clinic, University of Illinois, Research and Educational Hospitals, Center for Handicapped Children, 840 South Wood Street, Chicago, Ill.:

I want to congratulate you and members of your committee on the work in behalf of International Health and Medical Research.

Your activities will serve to extend our total knowledge in matters of health and benefit mankind everywhere. It is also an excellent advertisement for our country abroad to sponsor the exchange of ideas, tools and personnel.

* * * * * * *

John H. Dingle, M.D., Western Reserve University, School of Medicine, Cleveland, Ohio:

Thank you for sending me the reports of your subcommittee's activities. I have read them with interest and I think that you are performing a fine service. In my judgment our Government should take the leadership in the development of international medical cooperation and I believe that promotion of medical research is an essential part of such cooperation.

* * * * * * *

Morris C. Leikind, executive secretary of the Neurology Postgraduate Training Committee, National Institute of Neurological Diseases and Blindness:

The studies issued by your group are among the most significant of recent times and I wish to congratulate you and your colleagues for your splendid contributions. When historians come to write the medical history of our present era, these documents will be of the utmost value as source materials.

Edward A. Steinhaus, Director of Laboratory, Department of Biological Control, Laboratory of Insect Pathology, College of Agriculture, University of California, Berkeley, Calif:

I am impressed with the breadth and depth of these hearings, and with the thoroughness with which the subcommittee is investigating the entire matter of Government support for medical research. Clearly, the conferences you had with leading medical scientists in Europe were very productive and very much worthwhile, * * *

* * * * * * *

Melvin A. Glasser, executive vice president, the National Foundation, New York, N.Y.:

As you know, we of the National Foundation have followed with great interest the work of your subcommittee in the field of international health.

It has also been our pleasure to cooperate with the subcommittee and its staff in providing information concerning the National Foundation's own activities in this area.

Needless to say, we feel that the legislation likely to be drawn up as the result of the subcommittee's study will be extremely significant in establishing the United States as the leader in the move toward world peace through means that give promise of ultimate success.

The subcommittee publications are indeed models of their kind and should serve as the authoritative documents in their individual categories for a long time to come.

H. FUTURE PUBLICATIONS ANTICIPATED BY THE SUBCOMMITTEE

Senator HUMPHREY. Since this volume is already very sizable, we are not including herein certain other information which is relevant to its main theme.

We anticipate that additional data will, however, be developed in a series of separate subcommittee publications.

THREE CATEGORIES OF DATA COLLECTION

There are listed below three categories of data collection by the subcommittee. Sample titles in each category are listed, as of the date the present volume goes to press.

The first category consists of those publications which we now expect to issue formally as committee prints.

The second category consists of those compilations which, at this time, it appears will not be formally printed. The compilations will be used instead for background reference. (In some instances, a few copies of the typewritten manuscript may be photo-offset for limited, informal circulation. These copies will be made available for interested members of Congress and committees, on their request.)

The third category for which data has been compiled is the most important—our Final Report.

1. Committee Prints Now Anticipated

In the first category are committee prints now in completed manuscript or galley form such as:

"Veterinary Medical Science and Human Health" and
"The Federal Government and Child Health."

2. Reference Compilations Not Now Expected To Be Formally Published

In the second category are the manuscripts which will be used for background purposes but which are not now expected to be printed at the Government Printing Office, e.g.:

"The Federal Government and Biomedical Information."

(On certain other publications, decision as to whether or not to print has not yet been reached.)

3. Two-Volume Final Report

In the third category is our two-volume Final Report. Volume I will begin with a summary statement of subcommittee findings. The remainder of volume I will be devoted to a description of the health budget of the U.S. Government. Also to be included are statistics as to agency research personnel.

Volume II of the Final Report will be devoted essentially to a staff analysis of the coordination of: (*a*) federally supported biomedical research, (*b*) Federal activity in international health—in research and in assistance, (*c*) federally supported physical sciences research. (The latter phase is a separate project, carried on pursuant to S. Res. 255, sec. 1–4, 86th Cong. Item (*c*) is devoted principally to the information phase of research, a phase which has characterized the subcommittee's work in the life sciences, as well.)

SUBCOMMITTEE DECISION ON PRINTING

It should be noted that responsibility for the decision to publish or not to publish a particular compilation resides in the chairman and in the subcommittee. The decision is made after careful consideration of all of the many factors which are involved. In the case of this committee, as in the instance of other congressional committees, it is almost inevitable that more information is painstakingly compiled than can be used for formal publication.

COMPILATIONS NOT NOW EXPECTED TO BE PUBLISHED

Because of the factor of limited time and resources, we anticipate that it will unfortunately not be possible to issue formally several publications which I, for one, had hoped to be able to release as committee prints. Instead, in the case of a few of the compilations, we may photo-offset a limited number of copies for reference purposes by the subcommittee and by other interested groups in the Congress.

Irrespective of printing plans, the subcommittee has sought to compile useful reference tools which would assure ample background for the development of its findings and recommendations. While wanting sufficient data, we have tried to avoid imposing upon any source, public or private. We have been careful not to request information, particularly in the form of extensive memorandums, unless we felt that there was a genuine use to be served.

APPRECIATION TO CONTRIBUTORS

We know that the many experts who have responded to our requests have devoted a great deal of time and effort in doing so, as I have often acknowledged. For example, American voluntary agencies, including church groups, have graciously supplied us with voluminous information which has been invaluable. American pharmaceutical companies were among the first to respond to our inquiry as to their international activity and in great and welcome detail.

In certain selected fields, key specialists have given us invaluable insight by providing extensive memorandums on the international phases of their work. One such field is that of speech and hearing. Another field is one on which we have concentrated—processing of medical information.

COST OF PRINTING PUBLICATIONS

Necessarily, we have had to limit the number of our formally printed publications solely to those subjects on which the expense of printing as a Government publication would prove sound.

We are gratified that our past decisions to select particular collections for publication have met with virtually unanimous approval. We hope that this will be the case in the future as well.

Often, of course, it is impossible to know in advance whether a particular collection of data merits formal issuance as a committee print until its contents are actually assembled. In a few instances, we have reluctantly reached the decision that a final manuscript, while serving

as a valuable reference, could not be published in view of the many factors of time and cost.

In one or two instances, the issuance by another source, Federal or non-Federal, of somewhat related material made it unnecessary to publish a subcommittee manuscript.

REQUESTED MATERIAL CAREFULLY REVIEWED

Whether or not the subcommittee has decided to publish a given collection, individuals whose detailed contributions have been solicited by us can without exception, be assured that their work has been of reference value to us.

Most important, whether incoming memorandums or monographs are or are not formally printed, their contents may be referred to, abstracted or excerpted in our two-volume Final Report. A single page of findings in our Final Report may be backed up by literally hundreds of pages of published and unpublished evidence. In that way, any member of the Senate or House of Representatives who is interested in personally appraising the documentation on any finding can go back to the original sources.

The staff has carefully maintained this background documentation; already, the unpublished data have been consulted on many occasions by other sources. We believe that our files are, in effect, a helpful and active repository on international health data. This archive will, we believe, be a valuable basis for legislative and administrative action in the future.

I. ACTION THROUGH ADMINISTRATION CHANGES AND NEW LEGISLATION

A pattern for future action emerges from the hundreds of communications within these pages and the thousands of messages not published. Certain themes recur throughout the vast variety in medical topics and views, and it is these themes which provide a basis for a future program.

We are in a position now to take action, for action—not mere study—has always been the ultimate goal. As to the shape of the action, I do not presume to speak for my colleagues. Each will necessarily interpret the contents of these volumes from a slightly different viewpoint. Speaking for myself, I should like to conclude by noting that already, on the basis of the messages within these pages, I have been pleased—

(*a*) to introduce new legislation;

(*b*) to submit suggestions for administrative changes.

These suggestions have been transmitted to the able new Secretary of Health, Education, and Welfare, Hon. Abraham Ribicoff, and his colleagues, in particular to Dr. Luther L. Terry, Surgeon General of the U.S. Public Health Service, and his associates.

It is my hope and belief that the real conclusion of these volumes on international health will be in the form of sound new laws enacted by the Congress and new decisions by the executive branch. Similarly, it is my hope that foreign nations and intergovernmental organizations will, by means of these volumes, be in a more informed position for future action in concert with our own efforts.

INDEXES

As indicated in the introductory comments at the start of parts II and III, the contents of both volumes are indexed at this point. The indexing has been combined because there is a unity in the contents of parts II and III, i.e., the work of official and nonofficial sources is so interrelated that it should be viewed as a whole.

Three indexes are included: (1) Correspondents and contributors, (2) abbreviations, (3) selected subjects.

(1) CORRESPONDENTS AND CONTRIBUTORS

"Correspondents" indexed within this index are individuals who wrote to the subcommittee letters and memorandums which are reprinted within either of the two appendix volumes.

"Contributors" are individuals whose speeches, articles, and monographs are quoted in whole or in part herein. In a few instances, contributors did not personally forward these materials; someone else may have forwarded the item in seeking to be of assistance to the subcommittee. In any event, if an individual is quoted at length within a volume, his name appears within this index.

The subcommittee would have preferred to include in connection with each name the title of the correspondent or contributor, e.g., M.D., Ph. D., etc. Since some of the incoming letters, particularly from foreign experts, did not include reference to title, we have, as a matter of uniformity, omitted all titles herein.

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(2) ABBREVIATIONS

A–C

ABMAC	American Bureau of Medical Aid to China
ACS	American Chemical Society
ACSP	Advisory Council for Scientific Policy
AEC	Atomic Energy Commission
AIB	Association des Industriels de Belgique
AIBS	American Institute of Biological Sciences
AIDIS	Asociacion Interamericana De Ingenieria Sanitaria
AMA	American Medical Association
ANCHEP	American National Council for Health Education of the Public
APHA	American Public Health Association
ARC	Agricultural Research Council
ASCP	American Society of Clinical Pathologists
ASLIB	Association of Special Libraries and Information Bureaux
AUB	American University of Beirut
CARE	Cooperative for American Relief Everywhere, Inc.
CDC	Communicable Disease Center (PHS)
CERN	European Organization for Nuclear Research
CIOMS	Council for International Organizations of Medical Sciences
CMB	China Medical Board (Rockefeller Foundation)
CNRS	Centre National de la Recherche Scientifique (*France*)
COSPAR	Committee on Space Research
CSAGI	Comitè Spècial de l'Annèe Gèophysique Internationale (Special Committee for the International Geophysical Year)

D–H

DHEW	Department of Health, Education, and Welfare
DLF	Development Loan Fund
DOD	Department of Defense
DRPC	Defense Research Policy Committee
DSIR	Department of Scientific and Industrial Research (*United Kingdom*)
ECA	Economic Cooperation Administration
ECOSOC	United Nations Economic and Social Council
EPI-HAB	Rehabilitation of Epileptics Project
ETAP	United Nations Expanded Program of Technical Assistance
EURATOM	European Atomic Energy Community
FAGS	Federation of Astronomical and Geophysical Services
FAO	Food and Agriculture Organization of the United Nations
FDA	Food and Drug Administration
FDI	Federation Dentaire Internationale
FESPR	Federal Experiment Station in Puerto Rico
FIDES	Fonds d'Investissement de Developpement Economique et Social
FOA	Foreign Operations Administration (now the ICA)
HEW	Department of Health, Education, and Welfare
HNS	Hospital Nursing Service
HOPE	Health Opportunity for People Everywhere

I

IAB	International Abstracting Board
IACI	Inter-American Children's Institute
IAEA	International Atomic Energy Agency
IAU	International Astronomical Union
IBRO	International Brain Research Organization
IBS	International Broadcasting Service (U.S.I.A)

I—Continued

ICA	International Cooperation Administration
ICAO	International Civil Aviation Organization
ICA/W	International Cooperation Administration/Washington
ICLA	International Committee on Laboratory Animals
ICN	International Council of Nurses
ICNR	International Committee for Neurophysical Research
ICRP	International Commission on Radiological Protection
ICS	Information Center Service
ICSU	International Council of Scientific Unions
IDAB	International Development Advisory Board
IES	International Educational Exchange Service
IGY	International Geophysical Year
IHB	Industrial Home for the Blind
IHF	Industrial Hygiene Foundation
IIAA	Institute of Inter-American Affairs
IIE	Institute for International Education
ILA	International Leprosy Association
ILAE	International League Against Epilepsy
ILO	International Labor Organization, United Nations
IMS	International Motion Picture Service (U.S.I.A.)
INCAP	Institute of Nutrition for Central America and Panama
IPS	International Press and Publications Service (U.S.I.A.)
ISGP	International Society of Geographical Pathology
ISWC	International Society for the Welfare of Cripples
IUB	International Union of Biochemistry
IUBS	International Union of Biological Sciences
IUCr	International Union of Crystallography
IUG	International Union of Geography
IUGG	International Union of Geodesy and Geophysics
IUHEP	International Union for Health Education of the Public
IUHS	International Union of History and Sciences
IUM	International Union of Mathematics
IUNS	International Union of Nutritional Sciences
IUPAC	International Union of Pure and Applied Chemistry
IUPAP	International Union of Pure and Applied Physics
IUPS	International Union of Physiological Sciences
IUTAM	International Union of Theoretical and Applied Mechanics
IUVDT	International Union Against the Venereal Diseases and the Treponematoses

J–N

JAMA	Journal of the American Medical Association
LLU	Lending Library Unit
LSU	Louisiana State University
MCWA	Malaria Control in War Areas
MEDICO	Medical International Cooperation
MEND	Medical Education for National Defense
MRC	Medical Research Council
MSA	Mutual Security Agency
MSP	Mutual Security Program
NAMRU	Naval Medical Research Unit
NAS	National Academy of Science
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NCSR	National Center of Scientific Research
NE	Nursing Education
NGO	Non-Governmental Organizations
NIH	National Institutes of Health (PHS)
NINDB	National Institute of Neurological Diseases and Blindness
NRC	National Research Council
NSC	National Safety Council
NSF	National Science Foundation

O–T

OAS	Organization of American States
OAS/TCP	Organization of American States/Technical Cooperation Program
OCDM	Office of Civil and Defense Mobilization
OEEC	Organization for European Economic Cooperation
OMS	Organisation Mondiale da la Sante (World Health Organization)
ONR	Office of Naval Research
OSD	Office of the Secretary of Defense
OVR	Office of Vocational Rehabilitation
PACAF	Air Force in the Pacific
PACT	Prevention of Accidents and Technical Inspections
PAHO	Pan American Health Organization
PASB	Pan American Sanitary Bureau
PHN	Public Health Nursing
PHS	Public Health Service
SAMA	Student American Medical Association
SCC	Committee on Scientific and Cultural Cooperation
SCOR	Special Committee on Oceanic Research
SEATO	South East Asia Treaty Organization
SESP	Servicio Especial de Saude Publica
SHMP	Services d'Hygiene et de Prophylaxie
TCA	Technical Cooperation Administration
TVA	Tennessee Valley Authority

U

UAR	United Arab Republic
UCLA	University of California at Los Angeles
UICC	Union Internationale Contre Le Cancer (International Union Against Cancer)
UK	United Kingdom
UKAEA	United Kingdom Atomic Energy Agency
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNRPR	United Nations Relief for Palestine Refugees
UNRRA	United Nations Relief and Rehabilitation Administration
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UNSCEAR	United Nations Committee on Effects of Atomic Radiation
UNETAP	United Nations Expanded Program of Technical Assistance
URSI	International Scientific Radio Union
US	United States of America
USA	United States of America
USAF	United States Air Force
USAFE	United States Air Force in Europe
USC	Unitarian Service Committee
USDA	United States Department of Agriculture
USEP	United States Escapee Program
USIA	United States Information Agency
USIS	United States Information Service
USN	United States Navy
USOM	United States Operations Mission
USPHS	United States Public Health Service
USSR	Union of Soviet Socialist Republics

V–W

VA	Veterans' Administration
VD	Venereal Disease
VD & T	Venereal Disease and Treponematoses
VRSP	Visiting Research Scientists Program
WEU	Western European Union
WFN	World Federation of Neurology
WHO	World Health Organization
WMA	World Medical Association
WMO	World Meteorological Organization

(3) SELECTED SUBJECTS[1]

Listed below are the principal topics covered in parts II and III. Since the information in these volumes is intended basically to be of a survey character rather than an analysis in great depth, it has been felt advisable to include within this index only those topics which were referred to in some detail, rather than those which were merely the subject of a passing reference.

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NOTE.—This Index cites sources of correspondence, e.g., universities, organizations, etc., although, as noted previously, some correspondents wrote as individuals, and not on behalf of their institutions.

[1] Some readers interested in a particular foreign scientist, nation, or institution may wish to consult certain detailed tables within these volumes in order to locate information on present and past support. All of the tables setting forth the support are indexed under general subject, but, because of limited space, it has not been possible simultaneously to "break down" the tables and index in depth the names of all the institutions and all the countries which are listed.

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